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Cover: Participants on the upper deck of the *Thelma Dale IV* on the *See Life Paulagics* 28 August 2004 pelagic trip to Maryland waters, sailing out of Lewes, Sussex County, Delaware. Photographed by George Jett©.

Maryland Birdlife 67(2):1

Editor's Note

Welcome to the fall 2018 issue of *Maryland Birdlife*. Like the spring 2018 issue, the fall 2018 issue is devoted to pelagic birds and birding.

Fall 2018: *The Pelagic Issue*, Part 2

Phil Davis conducts a historical survey of pelagic records from the Royal Navy Birdwatching Society. Gene Scarpulla summarizes his two years of running pelagic trips out of Ocean City, Maryland. Jan Reese and Jeff Sullivan document published pelagic species reports in the Chesapeake Bay and its tributaries. In addition to the pelagic-oriented articles, J.B. Churchill summarizes the 2017–2018 Maryland Christmas Bird Counts, Mary Anne Fluke recaps the 2018 Maryland Mid-winter Bird Count, and Sue Ricciardi highlights the spring 2018 raptor migration at Fort Smallwood Park.

Both of the 2018 issues highlight the diversity of seabirds and seabirding opportunities in Maryland. *See Life Paulagics* routinely runs pelagic trips to Maryland waters. For additional information about these trips, visit http://paulagics.com/. So, get out and go seabirding!

Species List Order

Chesser, R.T., K.J. Burns, C. Cicero, J.L. Dunn, A.W. Kratter, I.J. Lovette, P.C. Rasmussen, J.V. Remsen, Jr., D.F. Stotz, B.M. Winger, and K. Winker. 2018. Check-list of North American Birds (online). American Ornithological Society. Available at: http://checklist.aou.org/taxa. Accessed September 2018.

Maryland Mid-winter Bird Count -- Statewide Compiler Needed

Mary Anne Fluke is stepping down as the Statewide Compiler of the Maryland Mid-winter Bird Count. The Maryland Ornithological Society and *Maryland Birdlife* thank Mary Anne for her two years of service and we wish her success in her future endeavors. MOS is seeking a volunteer to fill this position. If you might be interested in volunteering, please contact me and I will assist you in making the transition. Without a Statewide Compiler, the Maryland Mid-winter Bird Count data will cease to be published in *Maryland Birdlife*.

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Maryland Birdlife 67(2):2–15

Maryland Pelagic Records from the Royal Navy Birdwatching Society

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Abstract: This paper details the process used and the results of one of several Maryland/District of Columbia Records Committee (MD/DCRC) historical canvass research tasks. For this task, the pelagic observational database of the Royal Navy Bird Watching Society (RNBWS) was data-mined to reveal any historical Maryland pelagic bird reports. Two previously unknown observation records that satisfied MD/DCRC review criteria were identified and several errors in the RNBWS database were identified and corrected.

The Maryland/District of Columbia Records Committee

The Maryland/District of Columbia Records Committee (MD/DCRC) is a standing committee of the Maryland Ornithological Society (MOS). The committee is chartered by the MOS (2014), as follows:

> "The primary duty of the Records Committee is to review reports of rare bird sightings in Maryland and the District of Columbia. The Committee shall establish procedures for the submission of reports; publish a list of reviewable species; publish a summary of its work periodically in [*The*] *Maryland Yellowthroat* and *Maryland Birdlife*; and maintain an official list of the birds of Maryland and the District of Columbia."

In addition to reviewing contemporaneous rare bird reports, the committee also conducted a comprehensive historical canvass to locate and, if possible, review obscure published reports of rare and unusual regional observations. Obscure reports are those that were either not published in the committee's baseline, Stewart and Robbins (1958), or were otherwise unknown to the committee. The committee's historical canvass consisted of over twenty individual tasks to investigate various regional bird reporting sources, such as the Bird Banding Laboratory's database and the Breeding Bird Survey's database (both at the United States Geological Survey's Patuxent Wildlife Research Center), as well as other targeted documentation and data searches.

Royal Naval Birdwatching Society

The Royal Naval Birdwatching Society (RNBWS) was established in 1946 to help and encourage members serving in the British Royal Navy, Royal Marines,

and Women's Royal Naval Service in the observation and study of birds at sea (RNBWS 2013a). The RNBWS has since widened its membership to all, regardless of nationality, who share a common interest in birds at sea. Membership includes individuals from the merchant navies of many countries, operators of ocean weather ships, the offshore oil industry, passengers on cruise liners, and yachtsmen. The Society encourages reports from "Seafarers and Mariners at all levels, from the crews of the biggest cruise liner to the owner of the smallest dinghies. (RNBWS 2013a).

Pelagic Records

According to the RNBWS (2013a), "About seven tenths of the world's surface is covered with salt water, which provides the environment for nearly 300 species of seabirds, and across which many more species of land bird[s] travel during their annual migrations." Opportunities to observe and record observations of birds at sea are limited; therefore, all sources of potential pelagic records are valuable.

Maryland Pelagic Boundaries

Maryland's pelagic (open water) zone, for bird records, extends 200 nautical miles (nm [1 nm = 1.15 mi = 1.85 km]) into the Atlantic Ocean. The original Maryland pelagic waters boundary definition was based on a traditional approach of "due east for 200 nm" from the Maryland/Delaware and the Maryland/Virginia boundary points at the Atlantic Ocean. In March 2013, the MD/DCRC (Hafner et al. 2013) redefined Maryland's pelagic boundaries to follow the principle of equidistance (i.e., "nearest point of land"). The revised boundary is now specifically defined as "Due east of the Maryland/Delaware/Atlantic Ocean border and due east of the Maryland/Virginia/Atlantic Ocean border, each for a distance of 3 nautical miles; and then using the principle of equidistance (nearest point of land) from 3 to 200 nautical miles from the Maryland coastline" (MD/DCRC 2017a). This definition is consistent with the modern approach now adopted by most other state records committees and conforms to the popular eBird pelagic observation recording protocol (eBird 2017). This revised boundary definition significantly increased the total area of Maryland's pelagic zone which now encompasses areas previous overseen by other state records committees, notably Virginia.

RNBWS Database

The RNBWS maintains an online database of bird observation reports from onboard ships. The RNBWS world database includes over 35,000 records of both seabird and land bird sightings from most ocean and sea areas around the world (RNBWS 2013a).

In 2002, based on the original Maryland pelagic zone boundaries, I analyzed the RNBWS database to identify any unknown Maryland pelagic observations of

interest. At that time, no Maryland observations were found that met the MD/DCRC "Review List" criteria, i.e., reports for which the committee would conduct a records review if documentation were available. Although not reviewable, an early Middle-Atlantic region pelagic Dovekie (*Alle alle*) record from 11 December 1966 was identified as a relatively southern record of interest. Further investigation revealed that this observation occurred in Virginia waters, according to the 2002 pelagic boundaries in use at that time. However, as of 2013, due to the redefinition of the Maryland pelagic boundaries, this record reverted to Maryland waters.

In 2013, I again researched Maryland RNBWS observations based on the newly adopted MD/DCRC Maryland pelagic zone boundaries. This 2013 task was now easier to perform by use of the RNBWS' new, online, web-accessible data portal (RNBWS 2013b). Using this portal, I re-canvassed the RNBWS database for all Maryland pelagic observations with the intent of identifying any MD/DCRC "reviewable" reports. This paper summarizes the steps taken to conduct the 2013 RNBWS database review and to analyze potential Maryland pelagic records.

METHODS

In October 2013, I accessed the RNBWS database via their web portal (RNBWS 2013b). The RNBWS database was searchable either (1) by species or (2) for all reports within a specified radius from a given position. I selected the second method and estimated a geographic center point and radius that would entirely encompass the revised Maryland pelagic zone and show all records therein. My selected search circle was centered at 37.69° N, 73.24° W, with a radius of 201 km (125 mi).

I used the RNBWS web interface to generate an output map that showed all RNBWS pelagic observational reports within that circle, ensuring that all observations from within the revised Maryland pelagic boundaries were included. The output map generated is shown in Figure 1. RNBWS output maps tagged single observations (of one species at a given position) with "SE" and multiple observations (of multiple species from the same position) with "MU." The output map indicated all single and multiple Maryland pelagic reports (as well as reports from outside jurisdictions that also fell within the search circle). I annotated the map in red with the approximate revised Maryland pelagic boundaries.

I next verified that each record's reported position was indeed located in Maryland waters rather than that of another state, such as Virginia or New Jersey. This step was especially critical for observations that appeared close to the Maryland pelagic boundary. I plotted each observation's latitude/longitude using the Department of Natural Resources Maryland Coastal Atlas mapping

tool (MDNR 2016). This step visually verified that each targeted observation was located within the Maryland Federal Outer Continental Shelf (OCS) boundaries (i.e., the revised Maryland pelagic boundaries) and I eliminated from the summary data any candidate observations that fell within other states' OCS jurisdictions.

To create a common description frame of reference, I used Google Earth to mark the latitude/longitude at the middle of the entrance to the Ocean City (Maryland) Inlet and used this location as a reference point for informally describing each valid Maryland RNBWS observation. I determined the distance and bearing from this Ocean City point to each observation by using the "GPS Visualizer's coordinate calculators & distance tools" (Schneider 2003–2016).

A total of 23 Maryland species/location observations resulted, including both single and multiple reports. On the output map, I annotated these observations in red from 01 to 23 to facilitate internal tracking, discussion, and analysis.

Using the RNBWS data portal, I next examined the details of each relevant RNBWS data record. On the output map, a right-click on a specific SE or MU observation icon revealed the species observed and ship name associated with that sighting report. An example of these additional details (for reports 12 and 13) is shown in Figure 2.

The original database analysis described was conducted in 2013. In 2017, while preparing this article, the RNBWS database was again accessed; however, some data element definitions appeared to have been changed. Discussions with the current RNBWS database administrator, Stephen Chapman, revealed that after he took on that role, he discovered some systemic errors with data record, for example, missing data entry minus signs which placed records in the wrong hemisphere or the incorrect use of American and European date formats (e.g., mm/dd/yyyy vs. dd/mm/yyyy, respectively). Chapman analyzed and fixed the database's seabird records; however, the approximately 10,000 land bird records have been pulled and are awaiting what will be a lengthy analysis. Chapman did, however, double check all land bird data records for Maryland waters and confirmed that they are correct (except for the one instance, discussed below).

I next drilled down to specific observation report details by clicking on the indicated species/ship link. As an example, the details of the Great Skua (*Stercorarius skua*) observation (observation 12) are shown in Figure 3.

Within this "Full Details" data block, the "Observation ID" is an RNBWS-assigned accession number. The "Association" field is the volume and page number of the associated issue of the *Sea Swallow*, the RNBWS annual journal, where the observation was published. The *Sea Swallow* is published in

November of each year. In this Great Skua example, the citation is *Sea Swallow*, volume 19, page 70 (1967). Each referenced issue was examined to extract the relevant article title and author, and a copy of the article was captured for the MD/DCRC's data repository.

Figure 1. RNBWS database observations within the 2013 revised MD/DCRC Maryland pelagic boundaries (RNBWS 2013b).

Figure 2. Example of an expanded RNBWS database observation 12 and 13 (RNBWS 2013b).

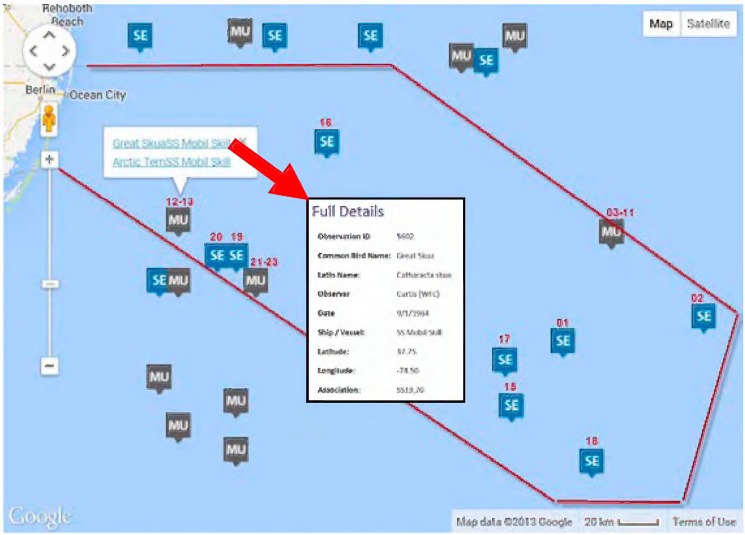

Figure 3. Example of full details of an RNBWS database observation 12 (RNBWS 2013b).

I created a summary table of all Maryland waters' RNBWS reports, including references to published *Sea Swallow* articles (Table 1). In this table, I annotated, in bold, MD/DCRC "reviewable" reports of interest, i.e., observations that met the then prevailing MD/DCRC Review List criteria (MD/DCRC 2017b). (This review list has evolved over time.) For each reviewable report, I created an MD/DCRC data record with a committee accession number, in the format MD/YYYY-NNN where YYYY is the year of the creation of the data record and NNN is a sequential number.

RESULTS and DISCUSSION

All Maryland pelagic records, of both seabirds and land birds, identified in the RNBWS database are summarized, in chronological order, in Table 1. Reports that would have met the prevailing MD/DCRC review criteria are bolded.

One report looked quite "suspicious" and called for special attention. It was a 1962 observation of four Lesser Redpolls (*Carduelis flammea cabaret*) quite far out to sea, which, if valid, would be not only a first Maryland record, but also, as of 2013, a North American first. [Note: In July 2017, the American Ornithological Society added Greenland to its North American geographic scope and thereby, due to an earlier 1933 Greenland specimen record, accepted Lesser Redpoll (now *Acanthis cabaret*) onto its checklist of North American birds

(Chesser et al. 2017).] I contacted representatives of the RNBWS to inquire about the validity of this 1962 Maryland report. The RNBWS database record contacts at the time were:

-Seabirds: Captain Neil Cheshire, MN; diomedea1@bigpond.com
-Land birds: Lieutenant Chris Patrick, Royal Navy; chrispatrick@live.co.uk.

I wrote to Captain Neil Cheshire, with whom I had previously communicated during my 2002 canvass. I asked him in an e-mail (Appendix 1) for any available details of that 1962 observation. Captain Cheshire's reply (Appendix 2) stated that:

> "…the record as published [in *Sea Swallow*] is for Redpoll *Carduelis flammea*, so it would appear that whoever entered this record into the database has assigned the sub/species *cabaret* arbitrarily.…This record is from over 50 years ago and a definitive answer is probably lost in the mists of time!"

The RNBWS officials therefore agreed that the Redpoll subspecies (based on British Ornithologists' Union [BOU] taxonomy, at the time) that had been entered into the RNBWS database was likely without basis and therefore could be considered incorrect.

Since this Lesser Redpoll "record" had already been "published" (via the publicly-accessible RNBWS database), I followed MD/DCRC protocol and created an MD/DCRC data record [accession number MD/2013-064] to correspond to this published Lesser Redpoll report. For this report, I captured all relevant documentation and correspondence for our MD/DCRC archives and the historical record. I placed this report into the MD/DCRC "Retracted" category, indicating that a report was "published" but was subsequently withdrawn or recanted. I also created a corresponding MD/DCRC data record (MD/2013-073) to document the corresponding corrected report of "redpoll, species (*Acanthis* species)," in lieu of the erroneously reported Lesser Redpoll. This report, related to the original report, although not reviewable, was still a report of interest and deserved to be captured in the committee's database. I placed the report into the committee's "Non-Review Species" category.

I entered the 01 September 1964 Great Skua and Arctic Tern (*Sterna paradisaea*) reports into the MD/DCRC database with accession numbers MD/2013-066 and MD/2013-067, respectively. Since no detailed descriptions were located for these published, public-record reports, they were placed in the MD/DCRC "Unreviewable" category which generally indicates reports that were published (and, hence, reviewed by an editor [in this case, Bourne (1967)]), but for which no detailed documentation was either created or subsequently located.

Table 1. Bird records within Maryland's pelagic boundaries as recorded in the RNBWS database (organized chronologically) (RNBWS 2013b and published references). Reports that would have met the prevailing MD/DCRC review criteria are bolded.

RNBWS Observation ID Number (2013) [Updated Observation ID Number (2017)]	Reference Number	Date	Common Name (Reviewable: bold) [MD/DCRC Accession Number]	Observer	Ship/Vessel	Latitude (degrees)	Longitude (degrees)	Distance (nautical miles) from Ocean City, MD	Bearing (degrees) from Ocean City, MD	*Sea Swallow* Published Reference	RNBWS Notes
2447	01	15 MAY 1960	Evening Grosbeak	JO Brinkley	*SS Hinea*	37.25	-72.50	139	117	Tuck 1961	1; E of Norfolk, VA
3673	**02**	**24 JAN 1962**	**Lesser Redpoll [MD/2013-064]; Redpoll, species [MD/2013-073]**	**ME Jones**	***MV Overseas Courier***	**37.35**	**-71.77**	**168**	**109**	**Tuck 1964**	**4; on board at close range 250 mi E of Norfolk, VA; departed N**
3825	03	13 APR 1962	Eastern Meadowlark	ME Jones	*MV Overseas Courier*	37.70	-72.25	140	105	Tuck 1964	1; on board all day
3826	04	13 APR 1962	Eastern Towhee	ME Jones	*MV Overseas Courier*	37.70	-72.25	140	105	Tuck 1964	2; on board at close range
3827	05	13 APR 1962	Ovenbird	ME Jones	*MV Overseas Courier*	37.70	-72.25	140	105	Tuck 1964	1; ringed as A256
3828	06	13 APR 1962	Slate-colored Junco	ME Jones	*MV Overseas Courier*	37.70	-72.25	140	105	Tuck 1964	1
3829	07	13 APR 1962	Snowy Egret	ME Jones	*MV Overseas Courier*	37.70	-72.25	140	105	Tuck 1964	1; on board
3830	08	13 APR 1962	Song Sparrow	ME Jones	*MV Overseas Courier*	37.70	-72.25	140	105	Tuck 1964	5; on board all day
3831	09	13 APR 1962	White-throated Sparrow	ME Jones	*MV Overseas Courier*	37.70	-72.25	140	105	Tuck 1964	1; ringed as A255
3832	10	13 APR 1962	Wood Thrush	ME Jones	*MV Overseas Courier*	37.70	-72.25	140	105	Tuck 1964	1
3833 [2761]	11	13 APR 1962	Wilson's Storm-Petrel	ME Jones	*MV Overseas Courier*	37.70	-72.25	140	105	Jones 1964	~75; following ship; first of year
5602 [4013]	**12**	**01 SEP 1964**	**Great Skua [MD/2013-066]**	**WF Curtis**	***SS Mobil Skill***	**37.75**	**-74.50**	**44**	**141**	**Bourne 1967**	**[1 ?]**
5602 [4014]	**13**	**01 SEP 1964**	**Arctic Tern [MD/2013-067]**	**WF Curtis**	***SS Mobil Skill***	**37.75**	**-74.50**	**44**	**141**	**Bourne 1967**	**5**
7014 [5127]	14	12 NOV 1966	Little Auk [Dovekie] [MD/ 2002-028]	PWG Chilman	*SS Plagiola*	38.00	-74.25	44	116	Bourne and Dixon 1973	31; S of New York; southernmost of year

RNBWS Observation ID Number (2013) [Updated Observation ID Number (2017)]	Reference Number	Date	Common Name (Reviewable: bold) [MD/DCRC Accession Number]	Observer	Ship/Vessel	Latitude (degrees)	Longitude (degrees)	Distance (nautical miles) from Ocean City, MD	Bearing (degrees) from Ocean City, MD	*Sea Swallow* Published Reference	RNBWS Notes
8069	15	22 MAY 1968	Great Blue Heron*	PWG Chilman	*SS Vibex*	36.98	-72.77	136	126	Tuck 1971	1; departed NNW; [~~300 nm E of South Carolina~~*]
13645	16	12 OCT 1978	Grey Plover [Black-bellied Plover]	W Weitkowitz	*MV Columbus California*	38.07	-73.73	66	103	Casement 1980	1; settled for a few hours; 65 nm SE of Delaware Bay
15848 [9948]	17	24 JUN 1982	Wilson's Storm-Petrel	PWG Chilman	*MV Tricula*	36.75	-72.35	161	125	Chapman 1984	5; astern
15849 [9949]	18	30 JUN 1982	Wilson's Storm-Petrel	PWG Chilman	*MV Tricula*	37.17	-72.80	129	122	Chapman 1984	At least 20; here on the return passage
22121	19	13 MAY 1990	Barn Swallow	MC Littlewood	*MT London Spirit*	37.60	-74.20	60	136	Casement 1991	1; 64 nm ESE Chincoteague
22903	20	24 MAR 1991	Northern Flicker	MC Littlewood	*MT London Spirit*	37.60	-74.30	57	139	Casement 1992	2; 1030 hrs, 55 nm off Chincoteague; stayed aboard until arrival in New York later in the evening
33283	21	10 OCT 2007	Mourning Dove	S Cook	*MV Fram*	37.50	-74.10	68	136	Patrick 2011	2; aboard in morning
33284	22	10 OCT 2007	Palm Warbler	S Cook	*MV Fram*	37.50	-74.10	68	136	Patrick 2011	1; arrived exhausted, remained a few hours, then resumed its migration
33285	~~[23]~~**	10 OCT 2007	Peregrine** Falcon	S Cook	*MV Fram*					Patrick 2011	1; immature visited in afternoon for several hours 52 nm SE of Cape Lookout, NC

*The latitude and longitude listed and the comment of "300 nm E of South Carolina" were in conflict. Plotting the *SS Vibex*'s May 1968 course from Curacao to New York, based on the ship's log, showed that the observation latitude and longitude, placing the ship in Maryland waters, was correct and the comment was erroneous. This conclusion was also confirmed by the current RNBWS database administrator, Stephen Chapman. Chapman noted that the *Sea Swallow* Editor added the comment to Captain Chilman's data to help contextualize the position; however, his comment was incorrect. Therefore, this observation is confirmed to be a Maryland waters record and Chapman has updated the RNBWS database accordingly.

**The RNBWS placement of this sighting in Maryland waters and the comment referencing Cape Lookout appeared to be inconsistent. An analysis of the original bird observation log for this *M/V Fram* cruise indicated that the NC (North Carolina) comment seemed correct and the reference to Maryland waters was probably erroneous. Chapman, the current RNBWS database administrator, confirmed this conclusion via plotting the ship's course and he also commented that Captain Simon Cook was a reliable reporter. Therefore, the described Peregrine Falcon position relative to Cape Lookout is deemed to be correct and hence this is not a Maryland waters record.

Great Skua was not included in the MD/DCRC baseline (Stewart and Robbins 1958); however, by the time the MD/DCRC was founded in 1982, the species was recognized as a regular winter visitor to Maryland waters. Great Skua was added to the Official List of the Birds of Maryland in 1995 by a general motion of the MD/DCRC, rather than based on a single first state record. This committee motion recognized the general presence of this taxon, and similarly a few other species, as recognized multiple-observer and photo-documented regular Maryland visitors since Stewart and Robbins (1958). During this interregnum period, even though Great Skua had never been classified as formally a review species, early observations are still notable and all reports have been captured in the committee's database. This 1964 sight report, despite lack of documentation, represents the second report for Maryland.

Similarly, Arctic Tern was not included in the Maryland baseline and this 1964 RNBWS report represents the first sight report for Maryland. Despite numerous other sight reports, Arctic Tern was not accepted as a Maryland species until a 30 May 1992 observation when two birds were photographed at Rocky Gap State Park in Allegany County (Southworth and Southworth 1992; Hall 1992).

SUMMARY

The MD/DCRC historical canvass of the RNBWS database resulted in identification of two hypothetically reviewable pelagic observation reports (Great Skua and Arctic Tern) that were previously unknown to the MD/DCRC. One erroneous RNBWS data entry report (Lesser Redpoll) was identified and corrected for posterity (redpoll, species). Two other questionable land bird position reports (Great Blue Heron [*Ardea herodias*] and Peregrine Falcon [*Falco peregrinus*]) were validated and annotations were corrected, with one of the records (Peregrine Falcon) being removed from Maryland waters. All relevant database and journal information was captured and archived, and appropriate entries were made to the MD/DCRC database.

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I extend my appreciation to Captain Neil Cheshire, MN, and Lieutenant Christopher Patrick (both RNBWS) for their assistance in conducting my 2002 query and my 2013 analysis of the RNBWS database. For the 2017–2018 database analysis and resolving issues, I also thank David Dobson, *Sea Swallow* Editor, and especially Stephen Chapman, RNBWS database administrator.

Thanks are also extended to reviewer Glenn D. Therres (Associate Director, Wildlife and Heritage Service, Maryland Department of Natural Resources, Annapolis, MD) and an anonymous reviewer.

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APPENDIX 1

From: Phil Davis
To: Capt Neil Cheshire MN
Sent: Friday, September 13, 2013
Subject: RNBWS database information query

Phil Davis here. I am the Secretary of the Maryland/District of Columbia [USA] Records Committee. I had previously communicated with you, a number of years ago, on several pelagic records research projects.

Currently, I am working on an historical canvass of "reviewable" records for Maryland and the District of Columbia.

Recently, our committee revised Maryland's pelagic boundaries to adopt the more generally accepted principle of equidistance (aka, "closest point of land"). The effect of this change was to shift and increase the Atlantic Ocean area that we now consider belonging to Maryland, from a records standpoint.

Yesterday, I saw a posting on the Seabirds listserver announcing your new checklist, which I downloaded ... thank you! While I was on the RNBWS web site, I also saw the link to the worldwide RNBWS database and found that the database is now available on-line.

I have a request for related information:

Lesser Redpoll. I searched for records that now fall within the new Maryland pelagic boundaries and, besides several reviewable records (of Great Skuas), I also found a record of a 1962 Lesser Redpoll that was observed in what is now Maryland waters. If valid, that record would be a first for Maryland and a first for North America!!!

The details related to this record that were available to me via the web interface are:

Observation ID: 3673
Common Bird Name: Lesser Redpoll
Latin Name: *Carduelis flammea cabaret*
Species: Fringillidae
Family: PASSERIFORMES
Observer: Jones (MEJ)
Date: 1/24/1962
Ship / Vessel: MV Overseas Courier
Latitude: 37.35
Longitude: -71.77
Association: SS16,51
Notes: On board at close range 250ml e coast dN [sic]

I am writing you to ask if any detailed information should happen to exist related to this observation. Any detailed field notes, photographs, or published references would be of great value.

The "Notes" comment appears to be truncated. If the complete note is available, that would be of value, also.

I realized that redpoll taxonomy is a bit unsettled, especially on the opposite sides of the Atlantic Ocean; however, if this bird were actually a [BOU] Lesser Redpoll (*Carduelis cabaret*), rather than an [AOU] Common Redpoll (*Acanthis flammea*) or a Hoary Redpoll (*A. hornemanni*), this would be a highly significant record.

Again, any additional information you can provide related to this observation would be greatly appreciated.

Phil Davis, Secretary
MD/DC Records Committee
2549 Vale Court
Davidsonville, Maryland 21035 USA

APPENDIX 2

From: Neil Cheshire <diomedea1@bigpond.com>
To: Phil Davis <pdavis@ix.netcom.com>
Cc: Chris Patrick <chrispatrick@talktalk.net>, Mark Cutts <slashercutts@lycos.com>
Subject: Re: RNBWS database information query
Date: Sat, 14 Sep 2013

Hello Phil,
Thanks for your email. Re. your queries, I attached the relevant pages from *Sea Swallow* Vols.16 and 20.

Lesser Redpoll *Carduelis flammea cabaret* 24 Jan '62. You will note the record as published is for Redpoll *Carduelis flammea*, so it would appear that whoever entered this record into the database has assigned the sub/species *cabaret* arbitrarily. Capt. Tuck who collated the landbird at sea reports for *Sea Swallow* 16 and 20 has long been deceased. This record is from over 50 years ago and a definitive answer is probably lost in the mists of time!

I have copied this email to our current landbird at sea record coordinator, Chris Patrick and our webmaster Mark Cutts in case they have any additional information.

Neil Cheshire
Encounter Bay,
South Australia

Maryland Birdlife 67(2):16–33

Atlantic Seabirds: Ocean City, Maryland Pelagic Trips, 1991–1992

Eugene J. Scarpulla

14207 Lakerun Court, Bowie, Maryland 20720-4861
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Abstract: In 1991 and 1992, *Atlantic Seabirds* ran pelagic trips out of Ocean City, Maryland. This article summarizes the observations documented on the nine pelagic trips.

In 1991, I founded *Atlantic Seabirds* (Figure 1) to offer Ocean City, Maryland pelagic trips for observing seabirds and marine mammals. My trips followed in the footsteps of those offered by Richard A. Rowlett (as *Atlantic Ocean Pelagic Trips*) in the 1970s and Ronald S. Naveen (as *Whales & Seabirds*) in the 1980s. Rowlett (1973, 1974a, 1974b, 1975, 1976a, 1976b, 1977a, 1977b, 1980) published summaries of his 1971–1977 trips. (Rowlett is currently Senior Marine Mammal Observer for the Southwest Fisheries Science Center, National Oceanographic and Atmospheric Administration Fisheries in La Jolla, California; Naveen is currently the Founder and President of the nonprofit environmental, scientific, and educational foundation Oceanites, Inc. in Chevy Chase, Maryland.)

Figure 1. ***Atlantic Seabirds*** **logo.**

Atlantic Seabirds chartered the oceangoing *O.C. Princess* (Figure 2), berthed at Shantytown Pier in West Ocean City. The 27-m (90-ft), double-deck *O.C. Princess* was brand new and state-of-the-art. It was powered by three V-10 turbocharged diesel engines, capable of doing 31 knots (36 mph), and was licensed to go 161 km (100 mi) offshore. Amenities included rest rooms, a heated/air-conditioned cabin, indoor and outdoor seating, a full-boat public address system, and a full-service galley offering a hot and cold breakfast, lunch, and snack menu. There was even a cash bar.

Figure 2. The *O.C. Princess* returning to Ocean City inlet after an *Atlantic Seabirds* pelagic trip (date and photographer unknown).

The highly-experienced trip leaders included the late Maurice Barnhill (>100 Atlantic and 25 Pacific pelagic trips), the late Rick Blom (50 Atlantic and 10 Pacific offshore trips), Tom "Mac" McIntyre (175 Atlantic and 30 Pacific pelagic trips), Ron Naveen (8000 hours on the north Atlantic, north and central Pacific, and Antarctic Oceans), Michael O'Brien (15 years of experience off the Atlantic and Pacific coasts), and Hal Wierenga (>100 Atlantic and 7 Pacific pelagic trips). Occasionally, various guest trip leaders were onboard, e.g., Jon Dunn, Paul Lehman, Brian Patteson, etc. Each trip was scheduled to last 12 hours, although not all did, depending on day length and weather conditions. Captain Monty Hawkins used a daily satellite photo of the Gulf Stream eddies to assist with each trip's course plotting. The primary destinations were Baltimore, Poor Man's, and Wilmington Canyons, the edge of the continental shelf and slope, and the Gulf Stream eddies (Figure 3). To attract tubenose species (i.e., Northern Fulmar, shearwaters, and storm-petrels), we laid down chum slicks of coarsely-ground beef suet and cod liver oil from the stern of the boat. Chumming usually fell to Michael O'Brien who had a greater tolerance for diesel fumes and the odor of cod liver oil.

Four trips (weather dates in parentheses) were scheduled for 1991: 4(5) May, 17 August, 28 September, and 23(24) November; and seven were scheduled for 1992: 29 February (1 March), 25 April, 6 June, 1 August, 15 August, 12 September, and 5(6) December. Due to inclement weather conditions, only nine of the eleven scheduled trips actually ran.

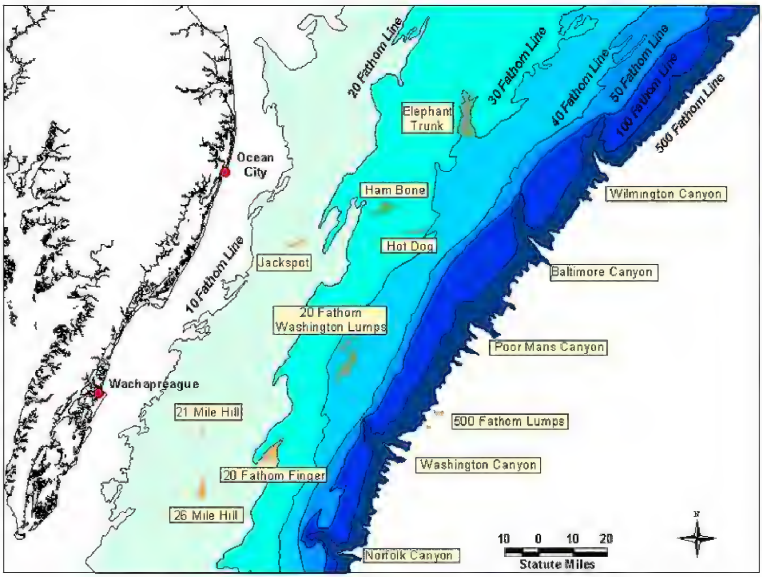

Figure 3. Mid-Atlantic Coast offshore locations (MDNR 2017).

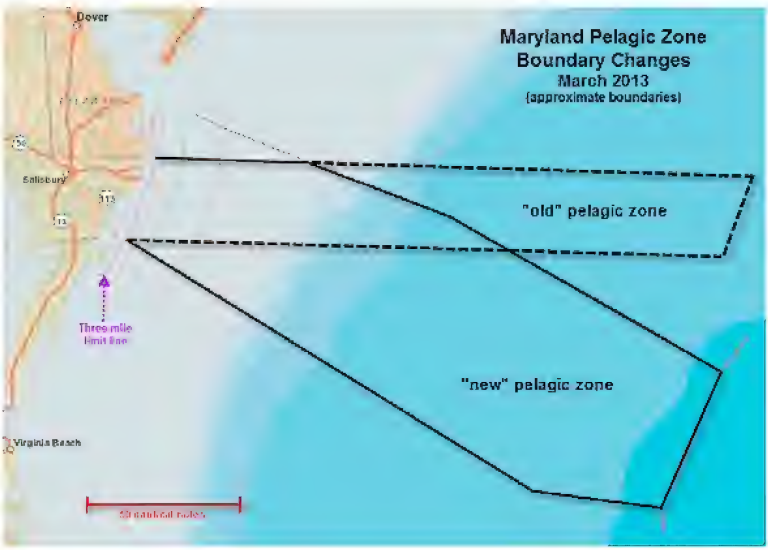

Figure 4. Maryland pelagic zone boundary changes. A comparison of the "due east" (old) method of the 1990s versus the current "closest point of land" (new) method (image created by Phil Davis, in litt., 31 July 2017; Hafner et al. 2013a, 2013b).

STATE BOUNDARIES

When pelagic trips were run in the early 1990s, the state coastal boundaries that were used extended due east from the coastal land state boundaries (Figure 4). For birding purposes, Maryland's coastal water boundaries extended due east as two parallel lines, i.e., the Maryland/Delaware border and the Maryland/Virginia border. Based on this method, Baltimore and Wilmington Canyons were considered to be in Maryland waters and Poor Man's Canyon was considered to be in Virginia waters.

The current practice (e.g., American Birding Association, eBird, and some state bird records committees [Dias 2012]) is to determine borders based on nearness to the closest point of land (Figure 4). The Maryland/District of Columbia Records Committee adopted this newer practice in 2013 (Hafner et al. 2013a, 2013b). This is also known as the "principle of equidistance" (Dias 2012). This principle is used by the United States government for "Setting Federal OCS [outer continental shelf] offshore administrative boundaries beyond State submerged lands [0–3 nautical miles (0–3.5 mi) offshore] for Department of the Interior planning, coordination, and administrative purposes" (MMS-DOI 2006). For birding purposes, this method extends Maryland's coastal waters much farther south than the "due east" method. Waters previously considered to have been in Virginia (e.g., Poor Man's Canyon, the [500 Fathom] Lumps, and the area north of Washington Canyon [but not in it, which is in Virginia]), now are considered to be in Maryland. This factor became very relevant for many species records. However, by using the "closest point of land" method, Maryland lost Wilmington Canyon to New Jersey.

OBSERVATIONS

Unfortunately, all of my *Atlantic Seabirds* data were destroyed by Hurricane Isabel's 2.7-m (9-ft) storm surge in September 2003, when I was living in the community of Millers Island, Baltimore County, Maryland. The compiled observational data included here were gleaned from *Maryland Birdlife* and *American Birds* (Table 1), and from trip leaders and participants. In one instance, the numbers of individual birds from the published sources differed. In that case, both numbers were reported (i.e., 27^{MB} or 20^{AB}).

Over the course of two years, we observed two species of phalaropes (Red-necked and Red), four species of jaegers (skua sp., Pomarine, Parasitic, and Long-tailed), three species of alcids (Dovekie, Razorbill, and Atlantic Puffin), Black-legged Kittiwake, Bridled Tern, ten species of tubenoses (Wilson's White-faced, Leach's, and Band-rumped Storm-Petrels; Northern Fulmar; Cory's, Sooty, Great, Manx, and Audubon's Shearwaters), and Northern Gannet (Table 2)

Table 1. Published sources for *Atlantic Seabirds* pelagic cruise data.

Trip Date	*American Birds* Citation	*Maryland Birdlife* Citation
4 May 1991	Armistead 1991	Ringler 1991
17 August 1991 28 September 1991 23 November 1991	Armistead 1992a	Southworth and Southworth 1992a
1 March 1992 25 April 1992	Armistead 1992b	Southworth and Southworth 1992b
6 June 1992	Armistead 1992c	Southworth and Southworth 1992c
1 August 1992 8 August 1992	Armistead 1993	Southworth and Southworth 1993

Seven species of marine mammals were observed over the course of the nine pelagic trips (Table 3). Three species of dolphins were observed: Short-beaked Common, Bottlenosed (offshore morphotype), and Risso's. Bottlenosed Dolphins have both coastal and offshore morphotypes. Mead and Potter (1995) found differences in their distributions, overall length, skull morphology, food habits, and parasite burden. They found that the coastal population occurred near the coast, whereas the offshore population clustered along the 1,000 fathom (6,000 ft) bottom contour. They also found that overall lengths of the coastal population had a mode of 2.50–2.60 m (8.2–8.5 ft), and the offshore population had a mode of 2.90 m (9.5 ft). Pilot whales were observed on four dates, but distinguishing between Long-finned and Short-finned Pilot Whales is difficult to impossible at sea. In general, Long-finned are a more northern, colder-water species and Short-finned are a more southern, warmer-water species. Maryland is in the overlap zone where either species could potentially occur. Three species of large whales were observed: Humpback, Fin, and Sei.

Three species of marine turtles were observed over the two years: Loggerhead, Green, and Leatherback Sea Turtles (Table 4). Loggerhead Sea Turtles were the most frequently encountered.

Ocean Sunfish were the most common observed miscellaneous fauna (Table 5). A close view of a Whale Shark and two Portuguese Man o' War made interesting sightings.

Table 2. Avian species observed on *Atlantic Seabirds* pelagic cruises. If numbers differed between the published sources, both numbers are reported (e.g., 2^{MB} and 3^{AB} [^{MB} = *Maryland Birdlife*, ^{AB} = *American Birds*]). "+" = present, but not counted.

Species	4 May 1991	17 August 1991	28 September 1991	23 November 1991	1 March 1992	25 April 1992	6 June 1992	1 August 1992	8 August 1992
Brant (*Branta bernicla*)				9					
Surf Scoter (*Melanitta perspicillata*)				3	20	2			
Black Scoter (*Melanitta americana*)	35			10	19	5			
scoter sp. (*Melanitta* sp.)				10	100				
Long-tailed Duck (*Clangula hyemalis*)					9				
Whimbrel (*Numenius phaeopus*)		1				3			
Dunlin (*Calidris alpina*)				2					
Least Sandpiper (*Calidris minutilla*)		2							
Short-billed Dowitcher (*Limnodromus griseus*)		9							
Greater Yellowlegs (*Tringa melanoleuca*)	3								
Red-necked Phalarope (*Phalaropus lobatus*)	18	3				2	2		2
Red Phalarope (*Phalaropus fulicarius*)	10			37					
phalarope sp. (*Phalaropus* sp.)	6					2			
skua sp. (*Stercorarius* sp.)					2				
Pomarine Jaeger (*Stercorarius pomarinus*)	3		6	2			1		
Parasitic Jaeger (*Stercorarius parasiticus*)	3			1		3			2
Long-tailed Jaeger (*Stercorarius longicaudus*)			1						
jaeger sp. (*Stercorarius* sp.)			7	1		1	1	1	2
Dovekie (*Alle alle*)				1	139				
Razorbill (*Alca torda*)				18	11				
large alcid sp. (*Uria* sp. or *Alca torda*)				3	22				
Atlantic Puffin (*Fratercula arctica*)					1				
Black-legged Kittiwake (*Rissa tridactyla*)				12	16				
Bonaparte's Gull (*Chroicocephalus philadelphia*)				1000	106	5			
Black-headed Gull (*Chroicocephalus ridibundus*)					2				
Little Gull (*Hydrocoloeus minutus*)				1	1				
Laughing Gull (*Leucophaeus atricilla*)		19	231	15		4+	4		2
Ring-billed Gull (*Larus delawarensis*)				100	655	+			
Herring Gull (*Larus argentatus*)			90	268	720	1025+	17		1
Iceland Gull (*Larus glaucoides*)					1				
Lesser Black-backed Gull (*Larus fuscus*)				2	3	1			
Great Black-backed Gull (*Larus marinus*)		2	56	98	127	11+	1		
gull sp. (family Laridae, subfamily Larinae)			34						
Bridled Tern (*Onychoprion anaethetus*)		3							4
Least Tern (*Sternula antillarum*)						5			
Black Tern (*Chlidonias niger*)	27^{MB} or 20^{AB}					2			
Common Tern (*Sterna hirundo*)	250	37	5			27	9	10	57

Species	4 May 1991	17 August 1991	28 September 1991	23 November 1991	1 March 1992	25 April 1992	6 June 1992	1 August 1992	8 August 1992
Arctic Tern (*Sterna paradisaea*)								1	
Forster's Tern (*Sterna forsteri*)				100					
Royal Tern (*Thalasseus maximus*)			1			5	3	1	4
tern sp. (family Laridae, subfamily Sterninae)			2			4		1	
Black Skimmer (*Rynchops niger*)						15			
Red-throated Loon (*Gavia stellata*)	1			25	14	200			
Common Loon (*Gavia immer*)	100		1	27	2	63	3		
loon sp. (*Gavia* sp.)						1			
Wilson's Storm-Petrel (*Oceanites oceanicus*)	8	370				10	208	3	251
White-faced Storm-Petrel (*Pelagodroma marina*)		1							
Leach's Storm-Petrel (*Oceanodroma leucorhoa*)									9
Band-rumped Storm-Petrel (*Oceanodroma castro*)		1							
large storm-petrel sp. (*Oceanodroma* sp.)		1	1						3
Northern Fulmar (*Fulmarus glacialis*)			1		18	3			
Cory's Shearwater (*Calonectris diomedea*)		984	14						1
Sooty Shearwater (*Ardenna grisea*)						11	66		
Great Shearwater (*Ardenna gravis*)		333	5	287			48		9
large shearwater sp. (*Calonectris* sp. or *Ardenna* sp.)		21	2						2
Manx Shearwater (*Puffinus puffinus*)	1			16		1			
Audubon's Shearwater (*Puffinus lherminieri*)		73							14
small black-&-white shearwater sp. (*Puffinus* sp.)		5	1				1		
Northern Gannet (*Morus bassanus*)	3			127	213	47			
Double-crested Cormorant (*Phalacrocorax auritus*)				10		500			
Brown Pelican (*Pelecanus occidentalis*)						15			1
Great Blue Heron (*Ardea herodias*)			1						
raptor sp. (order Accipitriformes)			1						
"Yellow-shafted" Northern Flicker (*Colaptes auratus auratus*)			5						
Tree Swallow (*Tachycineta bicolor*)	1								
Barn Swallow (*Hirundo rustica*)	1	3				1			
Cedar Waxwing (*Bombycilla cedrorum*)			2						
Chipping Sparrow (*Spizella passerina*)						1			
White-throated Sparrow (*Zonotrichia albicollis*)						2			
Dark-eyed Junco (*Junco hyemalis*)						1			
Red-winged Blackbird (*Agelaius phoeniceus*)						1			
Cape May Warbler (*Setophaga tigrina*)			2						
Blackpoll Warbler (*Setophaga striata*)			1						
warbler sp. (family Parulidae sp.)			3						
passerine sp. (order Passeriformes)			2						

Table 3. Marine mammals observed on *Atlantic Seabirds* pelagic cruises.

Species	4 May 1991	17 August 1991	28 September 1991	23 November 1991	1 March 1992	25 April 1992	6 June 1992	1 August 1992	8 August 1992
Short-beaked Common Dolphin (*Delphinus delphis*)					8				
Bottlenosed Dolphin (*Tursiops truncatus*) – offshore morph	2	35	60	3		41			47
Risso's Dolphin (*Grampus griseus*) [many observed on several dates; no surviving data]		40							
dolphin sp. (family Delphinidae)		1					1		
Long-finned Pilot Whale (*Globicephala melas*) or Short-finned Pilot Whale (*Globicephala macrorhynchus*)		125	18			10	1		
Humpback Whale (*Megaptera novaeangliae*)	1							1	
Fin Whale (*Balaenoptera physalus*) [1 or more observed on several dates; no surviving data]						6			
Sei Whale (*Balaenoptera borealis*) [at least 1 observed on at least two dates; no surviving data]									
whale sp. (order Cetacea)		1		1	1	1			
dolphin/whale sp. (order Cetacea)							1		

Table 4. Marine turtles observed on *Atlantic Seabirds* pelagic cruises.

Species	4 May 1991	17 August 1991	28 September 1991	23 November 1991	1 March 1992	25 April 1992	6 June 1992	1 August 1992	8 August 1992
Loggerhead Sea Turtle (*Caretta caretta*) [1 or more observed on several dates; no surviving data]			1						
Green Sea Turtle (*Chelonia mydas*) [1 observed on one or two dates; no surviving data]									
Leatherback Sea Turtle (*Dermochelys coriace*)		2							
turtle sp. (superfamily Chelonioidea)							1		

Table 5. Miscellaneous fauna observed on *Atlantic Seabirds* pelagic cruises.

Species	4 May 1991	17 August 1991	28 September 1991	23 November 1991	1 March 1992	25 April 1992	6 June 1992	1 August 1992	8 August 1992
bat sp. (order Chiroptera)		1							
Whale Shark (*Rhincodon typus*)		1							
shark sp. (subclass Elasmobranchii)							1		
Ocean Sunfish (*Mola mola*)		1				5	10		1
Portuguese Man o' War (*Physalia physalis*)		2							

TRIP HIGHLIGHTS

4 May 1991

No surviving time or location data.

Seabirds included 18 Red-necked Phalaropes, 10 Red Phalaropes, 3 Pomarine Jaegers (including 1 light-morph adult), 3 Parasitic Jaegers (all light-morph), 27^{MB} or 20^{AB} Black Terns, 250 Common Terns, 100 Common Loons, 8 Wilson's Storm-Petrels, 1 Manx Shearwater, and 3 Northern Gannets. Marine mammals included 2 Bottlenosed Dolphins and 1 Humpback Whale.

17 August 1991

0600–1800 hours; sites included the [500 Fathom] Lumps, the area north of Washington Canyon [but not in it], Poor Man's Canyon, Baltimore Canyon, and the [Ocean City 20 Fathom] Fingers.

This was one of the best pelagic trips ever run in Maryland waters. The seas were almost dead calm. We spent some time around squid fishery ships. The seabirds and other marine life were exceptional. Seabirds included 3 Red-necked Phalaropes (adults), 3 Bridled Terns (adults), 370 Wilson's Storm-Petrels, 1 White-faced Storm-Petrel (first photodocumented Maryland report), 1 Band-rumped Storm-Petrel (first photodocumented Maryland report), 984 Cory's Shearwaters, 333 Great Shearwaters, and 73 Audubon's Shearwaters. We also spotted a Whimbrel approximately 129 km [80 mi] offshore at Baltimore Canyon! Marine mammals included 35 offshore morph Bottlenosed Dolphins, 40 Risso's Dolphins, 125 Long-finned or Short-finned Pilot Whales, and 1 unidentified whale. Other fauna included 2 Leatherback Sea Turtles, 1 unidentified bat, 1 Whale Shark, 1 Ocean Sunfish, and 2 Portuguese Man-o'-War (19.8 km [12.3 mi] offshore). First-time participants pondered

"I've always heard that pelagic trips are so grueling and difficult, but this is a piece of cake." Little could they understand that calm seas and an abundance of marine life was the exception, not the rule. Also, using the "due east" state borders of that time, the majority of the sightings were considered to be in Virginia waters, but using the current "closest point of land" state borders, these sightings are now considered to have occurred within Maryland waters.

28 September 1991
0600–1800 hours; sites included Baltimore Canyon and Wilmington Canyon.

Seabirds included 6 Pomarine Jaegers, 1 Long-tailed Jaeger (juvenile; first photodocumented Maryland record), 1 Northern Fulmar, 14 Cory's Shearwaters, and 5 Great Shearwaters. Marine mammals included 60 offshore morph Bottlenosed Dolphins and 15 Long-finned or Short-finned Pilot Whales. Other sightings included 1 Loggerhead Sea Turtle. Using the "due east" state borders of that time, the majority of the sightings were considered to be in Maryland waters or along the Maryland/Delaware line, but using the current "closest point of land" state borders, sightings in the vicinity of Wilmington Canyon are now considered to have occurred within New Jersey waters. The only observation with available latitude/longitude coordinates was the Long-tailed Jaeger, a Maryland sighting.

23 November 1991
No surviving time or location data.

Seabirds included 37 Red Phalaropes, 2 Pomarine Jaegers, 1 Parasitic Jaeger, 1 Dovekie, 18 Razorbills, 12 Black-legged Kittiwakes, 1000 Bonaparte's Gulls, 1 Little Gull, 2 Lesser Black-backed Gulls, 287 Great Shearwaters, 16 Manx Shearwaters, and 127 Northern Gannets.

1 March 1992
0645–~1500 hours; sites included the continental shelf, Baltimore Canyon, and the continental slope.

Bird-wise, this was a marvelous winter trip. Seabirds included 2 skua sp. (Baltimore Canyon), 139 Dovekies, 11 Razorbills, 1 Atlantic Puffin, 16 Black-legged Kittiwakes, 2 Black-headed Gulls (1 first-winter, 1 adult-winter), 1 Little Gull (adult-winter), 1 Iceland Gull (first-winter), 3 Lesser Black-backed Gulls (1 first-winter, 2 adult-winter), 18 Northern Fulmars, and 213 Northern Gannets. We observed 8 Short-beaked Common Dolphins. Weather-wise, this trip was the antithesis of the 17 August 1991 trip. The day was very windy, blowing 25 knots (29 mph) out of the west. It was fairly easy getting out to Baltimore Canyon with a trailing wind, but we paid for it on the return trip, heading into high winds and high seas, waves crashing over the wheelhouse most of the trip back to Shantytown.

25 April 1992
~0615–1830 hours; sites included the Jack Spot, the [Ocean City 20 Fathom] Fingers, the Hot Dog, and Baltimore Canyon.

Seabirds included 2 Red-necked Phalaropes, 3 Parasitic Jaegers (including 1 adult), 1 Lesser Black-backed Gull, 200 Red-throated Loons, 63 Common Loons, 10 Wilson's Storm-Petrels, 3 Northern Fulmars, 11 Sooty Shearwaters, 1 Manx Shearwater, 47 Northern Gannets, and 500 Double-crested Cormorants. Marine mammals included 41 offshore morph Bottlenosed Dolphins, 10 Long-finned or Short-finned Pilot Whales, and 6 Fin Whales. We also observed 5 Ocean Sunfish.

6 June 1992
0550–1800 hours; sites included the Hot Dog.

Seabirds included 1 Pomarine Jaeger, 208 Wilson's Storm-Petrels, 66 Sooty Shearwaters, and 48 Great Shearwaters. Other fauna included 1 Long-finned or Short-finned Pilot Whale and 10 Ocean Sunfish.

1 August 1992
0545–0800 hours; sites included the Jack Spot.

This trip was cut short due to high winds and high seas. Seabirds included 1 Arctic Tern (first-summer; first photodocumented Maryland pelagic record) and 3 Wilson's Storm-Petrels. We had magnificent close-up looks at a Humpback Whale.

8 August 1992
0545–1745 hours

Seabirds included 2 Red-necked Phalaropes, 2 Parasitic Jaegers, 4 Bridled Terns, 251 Wilson's Storm-Petrels, 9 Leach's Storm-Petrel, 1 Cory's Shearwater, 9 Great Shearwaters, and 14 Audubon's Shearwaters. Other fauna included 47 offshore morph Bottlenosed Dolphins and 1 Ocean Sunfish.

MARYLAND/DC RECORDS COMMITTEE REVIEW SPECIES

Four of the observed avian species (Long-tailed Jaeger, *Stercorarius longicaudus*; Arctic Tern, *Sterna paradisaea*; White-faced Storm-Petrel, *Pelagodroma marina*; and Band-rumped Storm-Petrel, *Oceanodroma castro*) were on the Maryland/District of Columbia Records Committee Maryland Review List. A brief summary of each observation follows.

Long-tailed Jaeger, *Stercorarius longicaudus*

28 September 1991; one juvenile bird; Baltimore Canyon; Maryland's first photodocumented record; Control Number 1992-027 accepted by Maryland/DC Records Committee (MD/DCRC 2017) (Figure 5).

Figure 5. Long-tailed Jaeger. Juvenile; 28 September 1991, photographed by Dave Czaplak.

Arctic Tern, *Sterna paradisaea*

1 August 1992; one 1st-summer bird; 38° 04.21' N, 74° 54.54' W; Maryland's first photodocumented pelagic record; Control Number 1994-026 accepted by Maryland/DC Records Committee (MD/DCRC 2017) (Figure 6).

Figure 6. Arctic Tern. 1st-summer plumage; top: dorsal view; bottom: ventral view; 1 August 1992, photographed by Brian Patteson.

White-faced Storm-Petrel, *Pelagodroma marina*

17 August 1991; one bird; Washington Canyon; 37° 33.27' N, 74° 07.97' W; Maryland's first photodocumented report; Control Number 2014-077 ready for review by Maryland/DC Records Committee (MD/DCRC 2017) (Figure 7).

Figure 7. White-faced Storm-Petrel. 17 August 1991, photographed by Paul O'Brien (top) and Dave Czaplak (bottom).

Band-rumped Storm-Petrel, *Oceanodroma castro*

17 August 1991; one bird; Washington Canyon; 37° 33.27' N, 74° 07.97' W; Maryland's first photodocumented report; Control Number 2014-078 ready for review by Maryland/DC Records Committee (MD/DCRC 2017) (Figure 8). (Note that Band-rumped Storm-Petrel [*O. castro* s.lat.] may actually represent a species complex (Cape Verde [*O. jabejabe*], "Grant's" [not formally described], Madeiran [*O. castro* s.str.], and Monteiro's [*O. monteiroi*] Storm-Petrels [Howell et al. 2010, O'Brien 2018].)

Figure 8. Band-rumped Storm-Petrel. 17 August 1991, photographed by Paul O'Brien (top) and Dave Czaplak (bottom).

POSTSCRIPT

For two years, the six leaders and I enjoyed the *Atlantic Seabirds* pelagic venture, but when the availability of affordable and capable charter boats came to an end, we hung up our sea-soaked binoculars.

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Pelagic Bird Species Chronologies and Distributions for Chesapeake Bay and Its Tributaries

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ABSTRACT: Contemporary knowledge of pelagic species occurrence in the Chesapeake Bay and its tributaries is lacking, definitively limited, and/or up to six decades old. We used a database comprised of 1912–2017 published records to analyze the occurrence of 35 pelagic species. Northern Gannet (*Morus bassanus*) records are the most plentiful, distributed throughout the Bay and occur in all months. The span of time containing species records ranged from 70 days for Bridled Tern (*Onychoprion anaethetus*) to 324 days for Pomarine Jaeger (*Stercorarius pomarinus*). A total of 80% (n = 28) of the species and groups of difficult to separate species plus those with ≤ 5 records occurred in the second half of the year with 63% (n = 22) occurring within the period 4 July–6 September. Approximately 35% (n = 243) of the total species records (n = 701), excluding Sulidae and Alcidae species, were associated with tropical storms. Records show Potomac River with the highest diversity of species (18) with many records over 212 km (132 mi) upstream. This study provides the first pelagic species distribution and definitive chronologies for the Chesapeake Bay and its tributaries while providing important baseline information for future pelagic studies in the Bay.

KEYWORDS: Chesapeake Bay, chronologies, distribution, pelagic bird species

In the early 20th Century, wars and depressions gripped the country while public roadway systems with waterfront access were most likely inferior to later in the century. Similarly, there were probably fewer and less experienced bird watchers equipped with field guides and optics that would be considered inferior by current standards, and the practice of hiring commercial boats just to search offshore for pelagic species had yet to become a common practice. These factors may have contributed to the limited knowledge of pelagic species distribution, seasonal occurrences, and general habits in the Mid-Atlantic area (Stewart and Robbins 1958). Thus, much of what was known about pelagic species during that period may have been derived from birds blown into or found dead in towns

or cities during storm events in the western Atlantic Ocean (Ball 1931, Lincoln 1934, Dickinson and Calhoun 1939).

By the mid-20th Century, the country was again at peace and increasing numbers of bird watchers formed into organizations, field guides using vastly improved identification illustrations and methodologies became available, and constantly improving optical field equipment enabled observers to contribute much more information to our knowledge of pelagic species (Stewart and Robbins 1958). Furthermore, the addition of more regularly scheduled public ferries crossing the Chesapeake Bay and from the mainland to offshore islands (Handley 1934, Reed 1939, Beasley 1947, Scott 1956), plus construction of two bridges (William Preston Lane Jr. Memorial Bridge [Chesapeake Bay Bridge], Lucius J. Kellam Jr. Bridge-Tunnel [Chesapeake Bay Bridge-Tunnel]) across the Chesapeake Bay likely enabled one of the biggest boosts to reports of pelagic species during this period.

The 21st Century found new design technologies in binocular and spotting scopes, digital cameras, and various hand-held field devices available (e.g., GPS; cell telephones; text, visual, and audio species identification aids) plus more public shoreline vantage points for offshore viewing. These advancements vastly facilitated viewing opportunities, offshore detection, and more efficient and accurate identification, thus adding considerably to our knowledge concerning the timing occurrence and abundance of pelagic species.

In preparation for this paper, we systematically searched various reference books and periodic journals to compile a database of published records of pelagic species in Chesapeake Bay and its tributaries dating back to the beginning of the 20th Century. We subsequently sorted the database into subsets of individual species for analysis. Here we present the individual species chronology and distribution derived from those analyses.

METHODS

Study Area and Data Sources

The study area includes tidewater of Chesapeake Bay and its tributaries, plus locations within 2 km (1.2 mi) of the shorelines containing pelagic species records. Additionally, the portion above tidewater is included for three tributaries with pelagic species records, i.e., up to Richmond on the James River, Seneca on the Potomac River, and Conowingo on the Susquehanna River (Figure 1).

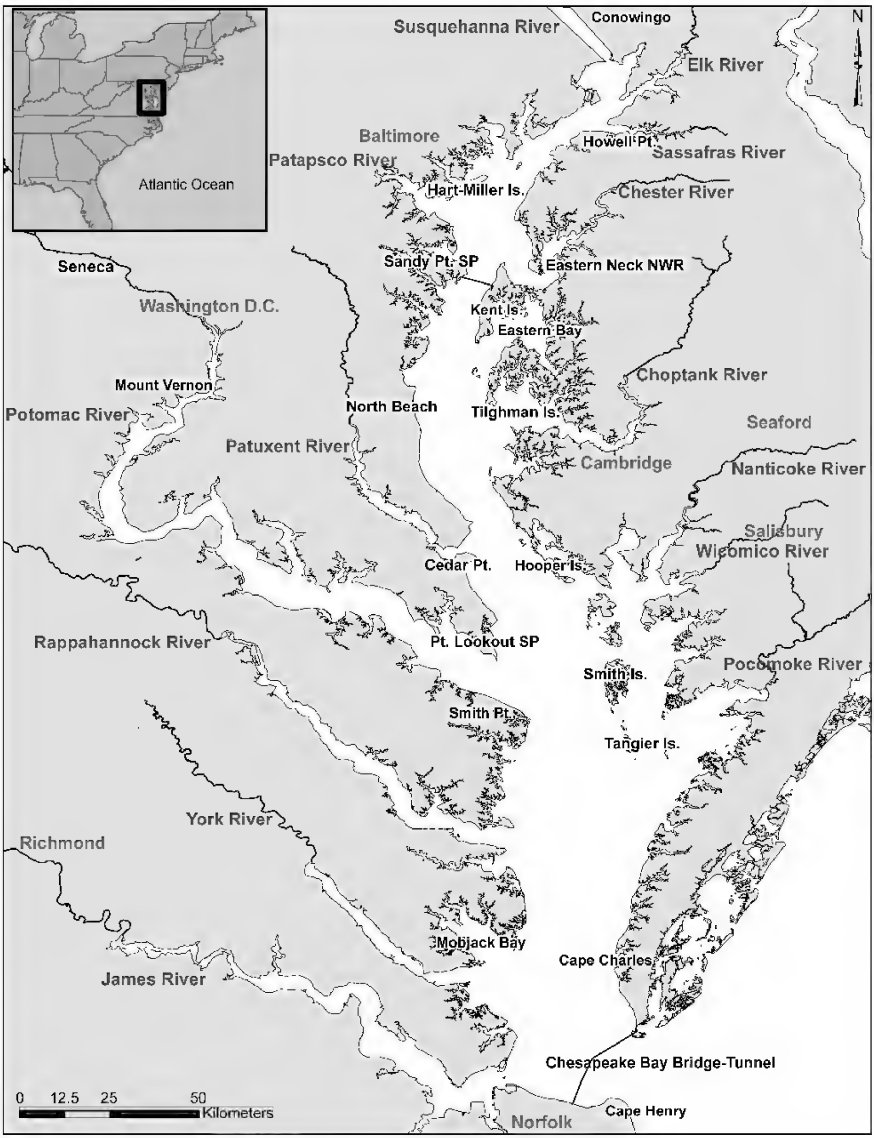

Figure 1. Chesapeake Bay and its tributaries study area on Mid-Atlantic Coast of United States.

Only published records in digitized journals and articles available to the public at various websites and/or personal hard copies of regional journals and reference books (Tables 1 and 2) were searched manually for records of pelagic species in Chesapeake Bay and its tributaries. Although the literature search was comprehensive, it was limited by lack of public access to regional publications such as *Bird Lore* (National Audubon Society), *Proceedings of the Biological Society of Washington* (Biological Society of Washington), *Atlantic Naturalist* (Audubon Society of the District of Columbia/Audubon Naturalist Society), *The Wood Thrush* (Audubon Society of the District of Columbia), *Bulletin of the Natural History Society of Maryland* (Natural History Society of Maryland), *Maryland: A Journal of Natural History* (Natural History Society of Maryland), *Transactions of the Maryland Academy of Sciences* (Maryland Academy of Sciences), *The Maryland Naturalist* (Natural History Society of Maryland), and *Maryland Conservationist* (Maryland Department of Natural Resources) which exist only in hard copy form not available outside private libraries. Additionally, there are gaps in consecutive years for some of the digitized journals, e.g., *The Raven* (Virginia Society of Ornithology) and *American Birds* (National Audubon Society). The data sources do not include unpublished records in eBird, museum specimen collections, various types of counts, personal records, and the databases of the Virginia Avian Records Committee (VARCOM) and the Maryland/District of Columbia Records Committee (MD/DCRC).

Table 1. Publications searched in compilation of the pelagic bird records database. Most pelagic species records were gleaned from various types of reports and articles contained within the listed journals.

Journals	Span of Searched Records: Year Volume(Issue)	Source
American Birds	1973 27(1) – 1994 48(1)	https://sora.unm.edu/node/209
National Audubon Society Field Notes	1994 48(2) – 1998 52(4)	https://sora.unm.edu/node/209
North American Birds	1999 53(1) – 2007 61(4)	https://sora.unm.edu/node/209
The Raven	1930 1(1) – 2013 84(2) 2014 85(1) – 2016 87(2)	http://www.ccbbirds.org/resources/the-raven/ Hard copies
Virginia Birds	2004 1(1) – 2016 13(1)	http://www.virginiabirds.org/publications/virginia-birds-journal/
Maryland Birdlife	1945 1(1) – 1999 55(4) 2000 56(1–4) – 2017 66(2)	sora.unm.edu/node/132691 Hard copies
The Maryland Yellowthroat	1980 1(1) – 2018 38(1)	Hard copies

Table 2. Regional reference books and additional journal articles containing pelagic bird records used in the database. This list contains articles from journals not listed in Table 1 with the exception of two articles from *The Raven* that provided multiple records.

Wetmore (1925)	Stewart and Robbins (1958)
Ball (1931)	Larner (1979)
Lincoln (1934)	Kain (1987)
Dickinson and Calhoun (1939)	Bazuin (1992)
Kolb and Bond (1943)	Brinkley et al. (2001)
Hampe and Kolb (1947)	Rottenborn and Brinkley (2007)

Database

The published records contained 35 pelagic species identified for Chesapeake Bay and its tributaries; their common and scientific names are listed in Table 3. The published records consisted of single or multiple birds encountered at a location, but are recorded in the database as a date-of-record only, regardless of the number of individuals. The occurrence record for many individual species was published in more than one journal with the occurrence date in one journal being slightly different than that given in another journal. Incidences of this sort involved 93 individual occurrences, i.e., 186 published records. Additionally, there were 36 records involving a species seen at the same location on consecutive days. In the database, we used only the earliest date given for the published record when the date disparity was ≤4 days between that given in different publications. We used both the earliest date and latest date given when the publications disparity was ≥5 days and similarly when a range of consecutive days seen was given for a record. There were 11 records with non-definitive dates, e.g., "throughout May–June 1999", "early April 1999", "late August 1999", or "September 1999". We assigned these records a single date commensurate with the middle of months or portion of months provided, e.g., "15 May and 15 June", "7 April", "20 August", and "15 September", respectively. The database includes all pelagic species records given for Chesapeake Bay and its tributaries in periodic VARCOM and MD/DCRC reports published in their regional publications (i.e., *The Raven,* and *The Maryland Yellowthroat*, respectively) regardless of whether or not the identifications were "accepted" or the review status changed over time. Various count tallies (Christmas Bird Counts, seasonal counts, trip counts, etc.) have been published and/or digitized and made available at public portals, but in many cases specific locations and observers cannot be attributed to individual species from counts with such a wide inclusion of observers and locations. Thus, only records from Christmas Bird Counts known to include the Chesapeake Bay and/or portions of major tributaries (e.g., Newport News, Williamsburg,

Mathews County, Point Lookout, Crisfield, etc.) are included in the database. A few of these counts frequently included Northern Gannet and rarely Parasitic Jaeger, Razorbill, or Black-legged Kittiwake.

TABLE 3. Pelagic species records for Chesapeake Bay and its tributaries. Species names follow Chesser et al. (2018).

Family	Common Name	Scientific name
Scolopacidae	Red Phalarope	*Phalaropus fulicarius*
Stercorariidae	Great Skua	*Stercorarius skua*
	Pomarine Jaeger	*Stercorarius pomarinus*
	Parasitic Jaeger	*Stercorarius parasiticus*
	Long-tailed Jaeger	*Stercorarius longicaudus*
Alcidae	Dovekie	*Alle alle*
	Common Murre	*Uria aalge*
	Thick-billed Murre	*Uria lomvia*
	Razorbill	*Alca torda*
	Black Guillemot	*Cepphus grylle*
	Atlantic Puffin	*Fratercula arctica*
Laridae	Black-legged Kittiwake	*Rissa tridactyla*
	Sabine's Gull	*Xema sabini*
	Brown Noddy	*Anous stolidus*
	Sooty Tern	*Onychoprion fuscatus*
	Bridled Tern	*Onychoprion anaethetus*
	Roseate Tern	*Sterna dougallii*
	Arctic Tern	*Sterna paradisaea*
Phaethontidae	White-tailed Tropicbird	*Phaethon lepturus*
Oceanitidae	Wilson's Storm-Petrel	*Oceanites oceanicus*
	White-faced Storm-Petrel	*Pelagodroma marina*
Hydrobatidae	Leach's Storm-Petrel	*Oceanodroma leucorhoa*
	Band-rumped Storm-Petrel	*Oceanodroma castro*
Procellariidae	Northern Fulmar	*Fulmarus glacialis*
	Trindade Petrel	*Pterodroma arminjoniana*
	Black-capped Petrel	*Pterodroma hasitata*
	Bulwer's Petrel	*Bulweria bulwerii*
	Cory's Shearwater	*Calonectris diomedea*
	Sooty Shearwater	*Ardenna grisea*
	Great Shearwater	*Ardenna gravis*
	Manx Shearwater	*Puffinus puffinus*
	Audubon's Shearwater	*Puffinus lherminieri*
Fregatidae	Magnificent Frigatebird	*Fregata magnificens*
Sulidae	Brown Booby	*Sula leucogaster*
	Northern Gannet	*Morus bassanus*

A total of 11 published records gave a non-definitive location such as "Nassawadox" or "Accomack County". These records were deleted from the database since it could not be ascertained if they were on the Atlantic Ocean or Chesapeake Bay side of the Delmarva Peninsula. We deleted an unidentified phalarope and four Bridled/Sooty Terns since they could not be attributed to a species or meet the ≥ 5 records necessary for statistical analysis. We did not include pre-1900 records based almost exclusively on a limited number of specimens (museum and mounted) shot or found dead after tropical storm events intermittently occurring in only a few years. Some of these records involved birds with non-validated dates and/or locations deposited with museums or authorities by curious collectors. Inclusion of these records, over a century old, would not add significantly to the database and the analysis. The remaining 1,090 records included in the database occurred during the period 1912–2017. The database was subsequently sorted for analysis into subsets of specific species, as well as groups of difficult to separate species (e.g., jaeger sp., petrel/shearwater sp., etc.).

Data Analysis

The dates of all records were converted to Julian calendar dates within a single year, such that any record on 1 January would be equal to 1 regardless of the year the occurrence event took place. For species that occupied the Chesapeake Bay and its tributaries over winter (thus splitting between calendar years), Julian dates were scaled to start at 1 on the beginning of their first occurrence date but were still standardized by date across years. The mean date of occurrence, its standard error, and the 95% confidence interval of the mean were calculated for each species with sufficient records (>5), while for the Northern Gannet, those values were calculated for two separate annual periods of occurrence. Additionally, the 2.5 and 97.5 percentiles were calculated for each species to provide a date range containing 95% of the records to suggest a focus period that the species is most likely to be found in Chesapeake Bay and its tributaries. All analyses were conducted in R 3.2.0 (R Development Core Team 2016).

Northern Gannet is the only species with records in every month of the year and preliminary review indicated they pass this latitude in two separate seasonal periods (early March–mid-April, mid-November–late December). To better visualize these seasonal periods, we compiled weekly total records and plotted them into a bar graph to clearly show the two seasonal periods. Using extreme dates from the two periods, we calculated the metrics for each period to avoid a potentially misleading mean and range based on records from all 12 months.

Additionally, we created a box plot graph for visual comparison of individual species (23 [including Northern Gannet graphed seasonally]) and grouped species (5) inter-seasonal means and focus periods. Finally, to verify accuracy of our chronologies we compared them to record dates given for the same species

in publications that include Chesapeake Bay and its tributaries (Hampe and Kolb 1947, Stewart and Robbins 1958, Kain 1987, Bazuin 1992, Rottenborn and Brinkley 2007).

RESULTS

Species in the petrel/shearwater (Procellariidae), alcid (Alcidae), and gull/tern (Laridae) families comprise 63% of the 35 pelagic species among the published records for Chesapeake Bay (Table 4). A few species are represented by over 100 records (Northern Gannet, Wilson's Storm-Petrel]) while 43% (n = 15) of the species have been recorded less than 10 times. The span of time containing a species records ranged from 70 days for Bridled Tern to 324 days for Pomarine Jaeger. A total of 80% (n = 28) of the species and groups of difficult to separate species mean dates plus dates of species with ≤ 5 records occurred in the second half of the year with 63% (n = 22) occurring within the period 4 July–6 September (Figure 3). There are few records committee review decisions for frequently occurring species, but those decisions take on considerable importance by validating the proportion of rare and more difficult to identify species. The records indicate species such as Northern Gannet are found throughout most of the Chesapeake Bay and lower portions of its tributaries, while other species like Northern Fulmar, Great Skua, and Common Murre have not been found beyond the Bay's interface with the Atlantic Ocean.

Database records from locations along shores of the Potomac River contain 18 pelagic species (51% of 35 species). Of these species, 12 (34%) ranged up to 212 km (132 mi) upstream to Washington, DC or above (Table 4). Database records from the James River contain 16 species (46%) with only two species ranging 111 km (69 mi) upstream to Richmond. The database contains 10 species from the Tangier and Pocomoke Sounds region that is comprised of the mouths of the Nanticoke, Wicomico, and Pocomoke Rivers with only three of the species ranging up to 35 km (22 mi) upstream from confluence waters in the sound.

Chronology dates determined for species in this study are comparable to the record dates for the same species in publications that include the Chesapeake Bay and its tributaries. Approximately 35% (n = 243) of the total pelagic species records, excluding Sulidae and Alcidae species (n = 1090 – 389 = 701) were associated with tropical storm events impacting regions of the Atlantic Coast.

Plotting the number of Northern Gannet record dates for seven-day intervals shows they increased and subsequently decreased two separate times annually (Figure 2).

Table 4. Pelagic species dates of extreme occurrence, mean, and standard error (SE) for records from Chesapeake Bay and its tributaries. "n" is the number of records used in analysis. "Extreme Dates" followed by () are multiple reports for one day. "Period of Focus" is the span of time containing 95% of the records. "RC" is VARCOM and MD/DCRC acceptance "Y" or not "N" of species requiring identification review. "Extent of Ingress in Chesapeake Bay and Its Tributaries" is the distribution from the Atlantic Ocean as records indicate.

Family and Common Name	n	Extreme Dates [a]	Mean Date	SE	Period of Focus	RC Y	RC N	Extent of Ingress in Chesapeake Bay and Its Tributaries: West	North	East
Scolopacidae										
Red Phalarope	40	12 Mar–30 Oct	26 Aug	9.65	3 Apr–30 Oct	10	1	NW Washington DC, Potomac R	Havre de Grace, Susquehanna R	Fruitland, Wicomico R
Stercorariidae										
Great Skua	2	13 Nov, 8 Feb[a]					1		Bay/ocean interface (Chesapeake Beach?)	
Pomarine Jaeger	37	4 April–21 Feb[a]	17 Sep	13.4	14 Apr–11 Feb	1		Seneca, Potomac R	Fort Smallwood Pk, Patapsco R	Rumbly Pt, Pocomoke R
Parasitic Jaeger	83	18 Apr–24 Feb[a]	3 Sep	9.2	23 Apr–17 Jan	1	2	Washington DC, Potomac R	Conowingo, Susquehanna R	Broad Cr, Choptank R
Long-tailed Jaeger	12	8 May–16 Nov	27 Aug	15.8	10 May–5 Nov	2		Washington DC, Potomac R	North Point SP, Patapsco R	Tilghman Is, Choptank R
jaeger sp. [b]	20	25 May–30 Dec	21 Sep	10.8	17 Jun–18 Dec	2		Seneca, Potomac R	North East R, head of Bay	Rumbly Pt, Pocomoke R
Alcidae										
Dovekie	13	11 Nov–3 Mar[a]	1 Jan	8.9	19 Nov–2 Mar	3	1	Baltimore, Patapsco R	Eastern Neck NWR,, Chester R	Cambridge, Choptank R
Common Murre	3	30 Dec, 15 Jan, 2 Feb[a]							Bay/ocean interface	
Thick-billed Murre	3	26 Jan, 12 Feb, 7 Mar				2			Bay/ocean interface (dead bird, Baltimore)	
Razorbill	30	4 Dec–13 May[a]	3 Feb	6.3	20 Dec–5 Apr			Norfolk, Little Cr	Cape Charles	
Thick-billed Murre/Razorbill [b]	8	31 Dec–23 Mar[a]	14 Feb	10.7	1 Jan–20 Mar		1	Hampton Roads, James R	Bay/ocean interface	

Family and Common Name	n	Extreme Dates [a]	Mean Date	SE	Period of Focus	RC Y	RC N	Extent of Ingress in Chesapeake Bay and Its Tributaries: West	North	East
Black Guillemot & sp. [c]	3	30 Nov, 26 Dec, 11 Mar[a]				1			Sandy Point SP, Chesapeake Bay Bridge	
Atlantic Puffin & sp. [d]	3	28 Aug, 16 Jan, 16 Mar[a]				1	1		Point Lookout SP, mouth Potomac R	
Laridae										
Black-legged Kittiwake	43	19 Sept–7 Apr[a]	10 Dec	6.2	30 Sep–16 Feb	12		Seneca, Potomac R	Conowingo, Susquehanna R	Oxford, Choptank R
Sabine's Gull	23	21 May–9 Dec	28 Aug	10.0	22 May–3 Nov	12	3	Seneca, Potomac R	Conowingo, Susquehanna R	Dames Quarter, Wicomico R
Brown Noddy	5	24 Jul, 2 Sept (4)				1	1	Port Royal, Rappahannock R	Cape Charles	
Sooty Tern	64	13 Jul–17 Oct	1 Sep	2.0	14 Jul–19 Sep	21	3	Seneca, Potomac R	Sparrows Point, Patapsco R	Salisbury, Wicomico R
Bridled Tern	31	13 Jul–20 Sep	5 Sep	2.5	28 Jul–19 Sep	5		Washington DC, Potomac R	Sandy Point SP, Chesapeake Bay Bridge	Salisbury, Wicomico R
Roseate Tern	29	12 Apr–19 Sept	6 Jul	9.7	25 Apr–18 Sep	1	1	Alexandria, Potomac R	Hart Miller Is, Back R	Fishing Bay, Nanticoke R
Arctic Tern	21	8 May–19 Sep	4 Jul	11.5	9 May–17 Sep	7	2	Seneca, Potomac R	Conowingo, Susquehanna R	Oxford, Choptank R
Phaethontidae										
White-tailed Tropicbird	2	19 Sep				1		Richmond, James R	Bay/ocean interface	
Oceanitidae										
Wilson's Storm-Petrel	154	21 Mar–5 Oct	14 Jul	2.5	31 May–19 Sep	2	2	Alexandria, Potomac R	Wye Is, Eastern Bay	Roaring Pt, Nanticoke R
White-faced Storm-Petrel	1	6 Sep				1		Hog Is, James R	Hog Is, James R	
Hydrobatidae										
Leach's Storm-Petrel	18	10 Jan–17 Oct	26 Jul	17.0	9 Feb–11 Oct	3		Washington DC, Potomac R	Matapeake SP, Kent Island	Salisbury, Wicomico R
Band-rumped Storm-Petrel	8	12 Jul–19 Sep	26 Aug	10.1	12 Jul–19 Sep	4	1	Mount Vernon, Potomac R	Mount Vernon, Potomac R	Cape Charles
storm-petrel sp. [b]	7	13 Jul–19 Sep	30 Aug	9.1	19 Jul–19 Sep	1		Mount Vernon, Potomac R	North Beach	

Family and Common Name	n	Extreme Dates [a]	Mean Date	SE	Period of Focus	RC Y	RC N	Extent of Ingress in Chesapeake Bay and Its Tributaries: West	North	East
Procellariidae										
Northern Fulmar	3	30 Sep, 22 Oct, 4 Mar[a]							Bay/ocean interface	
Trindade Petrel	2	13 Jul, 11 Sep				1	1	Herndon, Potomac R	Herndon, Potomac R	
Black-capped Petrel	10	13 Jul–25 Sep	23 Aug	9.2	13 Jul–24 Sep	3			Bay/ocean interface	(dead bird, Eastern Bay)
Bulwer's Petrel	1	2 Sep				1			Bay/ocean interface	
Cory's Shearwater	7	7 Jul–19 Sep	12 Aug	12.2	7 Jul–17 Sep	1		Alexandria, Potomac R	Alexandria, Potomac R	
Sooty Shearwater	14	20 May–2 Sep	20 Jun	9.6	21 May–29 Aug		1	College Creek, James R	Smith Island, Tangier Sound	Fox Is, Tangier Sound
Great Shearwater	13	14 Jun–6 Sep	15 Jul	7.45	15 Jun–6 Sep	1	1	Hog Is, James R	Smith Is, Tangier Sound	
Manx Shearwater	4	26 Dec (2), 14 Jan, 15 Jun[a]				1			Bay/ocean interface	
Audubon's Shearwater	6	9 Jul–8 Oct	21 Aug	14.2	10 Jul–4 Oct				Bay/ocean interface	
petrel/shearwater sp. [b]	8	15 Jun–23 Sep	23 Aug	11.5	22 Jun–20 Sep	1	1	Mount Vernon, Potomac R	Howell Pt, Sassafras R	Oxford, Choptank R
Fregatidae										
Magnificent Frigatebird & sp. [c]	19	20 May–21 Nov	22 Aug	14.8	21 May–19 Nov	3	4	Washington DC, Potomac R	Eastern Neck NWR, Chester R	Broad Cr, Choptank R
Sulidae										
Brown Booby	14	26 Jun–3 Dec	5 Sep	13.1	26 Jun–27 Nov	4	3		Baltimore, Patapsco R	Love Pt, Chester R
Northern Gannet (Jan–Jul)	227	1 Jan–2 Jul	23 Mar	2.2	6 Jan–14 Jun			Washington DC, Potomac R	Turners Cr, Sassafras R	Cambridge, Choptank R
Northern Gannet (Aug–Dec)	98	19 Aug–31 Dec	30 Nov	2.4	24 Sep–30 Dec			Mount Vernon, Potomac R	North Point SP, Patapsco R	Oxford, Choptank R

[a] Extreme dates (inclusive of months spanning two consecutive years [e.g., 29 Nov of one year through 22 Feb of the following year])
[b] Identification to a specific species uncertain
[c] Black Guillemot accredited to one record, others identified as guillemot sp.
[d] Atlantic Puffin accredited to two records, other one identified as puffin sp.
[e] Magnificent Frigatebird accredited to eight records, other identifications uncertain frigatebird sp.

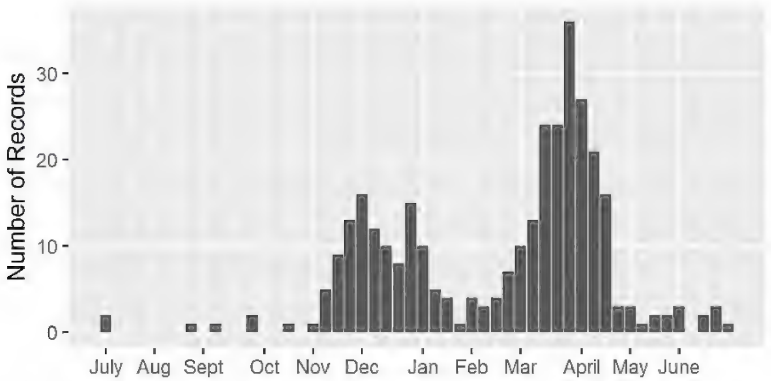

Figure 2. Northern Gannet seven-day record totals (n = 325) for Chesapeake Bay and its tributaries.

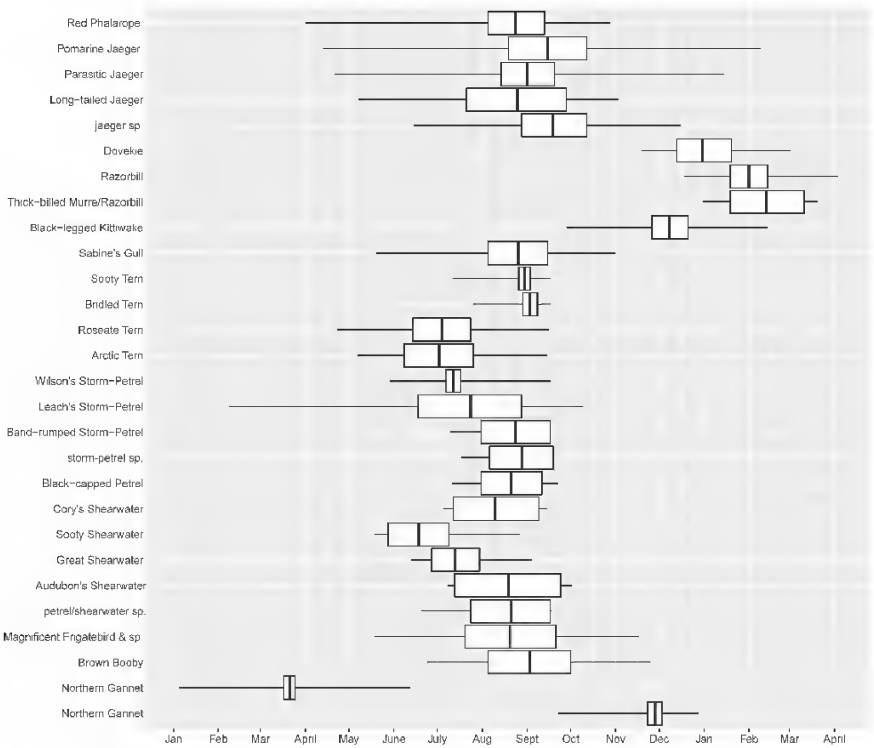

Figure 3. Pelagic species and grouped-species chronologies for Chesapeake Bay and its tributaries. Horizontal lines denote periods containing 95% of the records, vertical lines denote mean dates, and boxes indicate 95% confidence intervals.

DISCUSSION

This study provides the first comprehensive examination of pelagic bird species chronology and distribution for the Virginia portion of Chesapeake Bay and its tributaries in over a decade and the Maryland/District of Columbia portion in over 60 years. The study found plentiful records throughout the Bay during all months of the year for some species, while others are known by less than 10 records and/or restricted to the Bay's interface with the Atlantic Ocean. Most records occur in the last half of the year particularly in months with tropical storms.

Northern Gannet is the most frequently occurring and wide-spread pelagic species in Chesapeake Bay and its tributaries with records from every month of the year and a distribution ranging to Sassafras River (Armistead 1991, Ringler 1991) near the head of the Bay, while extending up major tributaries to locations such as Williamsburg, Virginia (Iliff 1996), Washington, DC (Atwood 2005), and Cambridge, Maryland (Ringler 2003). Flocks sometimes range into the thousands (Iliff 2001, 2002) in portions of the Chesapeake Bay below the mouth of the Potomac River. However, gannet records are clustered in two separate times of the year (early March–mid-April and again in mid-November–late December) suggesting migrants passing this latitude to and from northern nesting areas. Despite accounting for this behavior by splitting the gannet data in two seasonal periods for analysis, consideration should be given when interpreting these results as both these periods may contain a small number of winter or summer vagrants.

Similarly, records used in the annual chronology given here for some other pelagic species may include less obvious north and south migrants, e.g., cyclic lemmings provide the primary food source for Pomarine Jaeger in arctic nesting areas while in years of rodent scarcity, early arriving jaegers sense the shortage, forego nesting, and immediately disperse or return south (Harrison 1983). Other overlapping incidences may involve late north and early south migrating Wilson's and Leach's Storm-Petrels, Roseate and Arctic Terns, and jaegers that all nest in the eastern Canadian Maritimes.

Wilson's Storm-Petrel is the second most frequently occurring pelagic species in Chesapeake Bay and its tributaries with most records in mid-June–late-July (Bazuin 1992). Their records range north to Eastern Bay (Sharp 1971), west to Alexandria on the Potomac River (Ringler 2004) and east to inside the mouth of the Nanticoke River off of Tangier Sound (Day 2005). Records are most frequent from the mouth of the Potomac River and the southern Tangier and Pocomoke Sounds south to the mouth of the Chesapeake Bay. Records indicate storm-petrels appear to favor the west side of this portion of Chesapeake Bay

especially in area of Mobjack Bay where flocks of hundreds have been recorded (English 1933, Scott and Cutler 1974, Ake et al. 1975).

Records indicate pelagic species that inhabit more northerly latitudes usually enter the Chesapeake Bay and its tributaries in only the coldest months, e.g., Great Skua, all the alcids, Black-legged Kittiwake, and Northern Fulmar. Records of more southerly inhabiting species show ingress primarily during tropical storms passing north along the Atlantic Coast during the warmest months, e.g., jaegers, Sooty Tern, Bridled Tern, storm-petrels, petrels, shearwaters, and frigatebirds. Records of other pelagic species appear to not be as strongly influenced by climatic conditions and may occur at various intervals or anytime during the year, e.g., Red Phalarope, Sabine's Gull, Wilson's Storm-Petrel, and Northern Gannet. Additionally, published literature indicates there have been sporadic influxes of an individual pelagic species (Murphy and Vogt 1933, Lincoln 1934). Prevailing onshore east winds and/or ocean currents, unusual freeze-ups at more northern latitudes, oceanic storms, or shortages of marine organisms may be associated with the sporadic influxes.

Record locations indicate Chesapeake Bay tributaries with the highest diversity of pelagic species are respectively the Potomac River, James River, and Tangier/Pocomoke Sounds. These findings may be associated with the proximity of those bodies of water to the Bay's interface with the Atlantic Ocean, their size as a large waterway attractant, and/or highly developed and populated shorelines with abundant observers. Unexplained, however, is the occurrence of pelagic species 48 km (30 mi) upstream above Washington, DC on the Potomac River.

Many factors may contribute to arduous, perplexing, or dubious pelagic species identification. Limited public access to strategic land projections into Chesapeake Bay and its tributaries, viewing compromised by unstable footing due to boat movement, a brief viewing period of seldom-seen species at long distances in unfavorable light, or adverse weather conditions are some restraints. Additionally, rapid flight of fast-moving birds, plumages restricted to subdued black-brown-grey-white color patterns, many species difficult to separate from similar looking species, and lack of contemporary regional identification field guides containing all possible pelagic species that could occur confound species identification.

It should be noted the database may contain published records of documentation that are lacking or have questionable identification descriptions; no witness observer, no peer or records committee review of the record; and/or erroneous and conflicting dates or locations (see database examples in Methods). Many records published prior to formation of the records committees in the 1980s have been reviewed and accepted by the committees, while other records contained in

published reports may be forever unsuitable for review. The published regional records committees' identification decisions are included in Table 4 to reflect an approximate proportion of each pelagic species records that have been confirmed or refuted by peer review. In this paper, we have attempted to minimize some of these potential identification discrepancies and/or misleading chronologies by creating subsets of similar-looking species (i.e., jaegers, alcids, storm-petrels, petrel/shearwaters, and frigatebirds) for analysis. The resulting lumped chronologies may then be compared for variance with that given for a specific individual species in that group (Figure 3).

In conclusion, this is the first available comprehensive analysis of pelagic bird species chronology and distribution for the Chesapeake Bay and its tributaries despite possible definitive discrepancies and/or small sample size for some species in the records. Additionally, it is the first-time that pelagic species chronology or distribution has been addressed in the Virginia jurisdiction in over a decade and in the Maryland/District of Columbia portion in over six decades. This important baseline information may be of value to future studies in understanding pelagic species occurrence, chronologies and distribution in Chesapeake Bay and its tributaries.

ACKNOWLEDGMENTS

Many observers have contributed through the years to our knowledge of pelagic species occurrence in Chesapeake Bay and its tributaries. We do not have room here to acknowledge all of them, but among the records containing a credited observer the following names and their general observation location stand out from the rest: Edward S. Brinkley positioned in the Cape Charles through tip of the Delmarva Peninsula and the Chesapeake Bay Bridge-Tunnel has perhaps contributed more than anyone else to our knowledge of pelagic species ingression to Chesapeake Bay. Other significant contributions have been made by Henry T. Armistead. Matthew D. Hafner, Marshall J. Iliff, and Michael O'Brien at various locations; Paul A. Buckley, John H. Grey, William B. McIlwaine, Mrs. A.C. Reed, Frederic R. Scott, and Charles C. Steirly from the Cape Henry area and the historical ferry from Little Creek, Norfolk to Cape Charles; Robert L. Ake, George L. Armistead, Mitchell A. Byrd, J. Brian Patteson, Barton J. Paxton, Paul W. Sykes, Jr., Brian J. Taber, Bryan D. Watts, and J. William Williams in the Cape Henry, James River, York River, Mobjack Bay and Chesapeake Bay Bridge-Tunnel areas; Patricia A. Craig, Martin F. Cribb, William S. Portlock, and James L. Stasz in the Point Lookout State Park and ferry from there to Smith Island and Crisfield; David S. Czaplak, George M. Jett, and Paul A. Pisano from the mouth of the Potomac River to well above Washington, DC; Kyle E. Rambo at Cedar Point at the mouth of Patuxent River; James L. Stasz at North Beach; Harold L. Wierenga and Lynn M. Davidson at

Sandy Point State Park at the base of the Chesapeake Bay Bridge; and Eirik A. T. Blom and Eugene J. Scarpulla at the head of the Chesapeake Bay.

Diann J. Prosser (Research Wildlife Ecologist, USGS Patuxent Wildlife Research Center, Beltsville, MD) enabled technical assistance; David Bridge provided the 2014–1016 issues of *The Raven*; and an anonymous reviewer provided helpful comments on an earlier draft.

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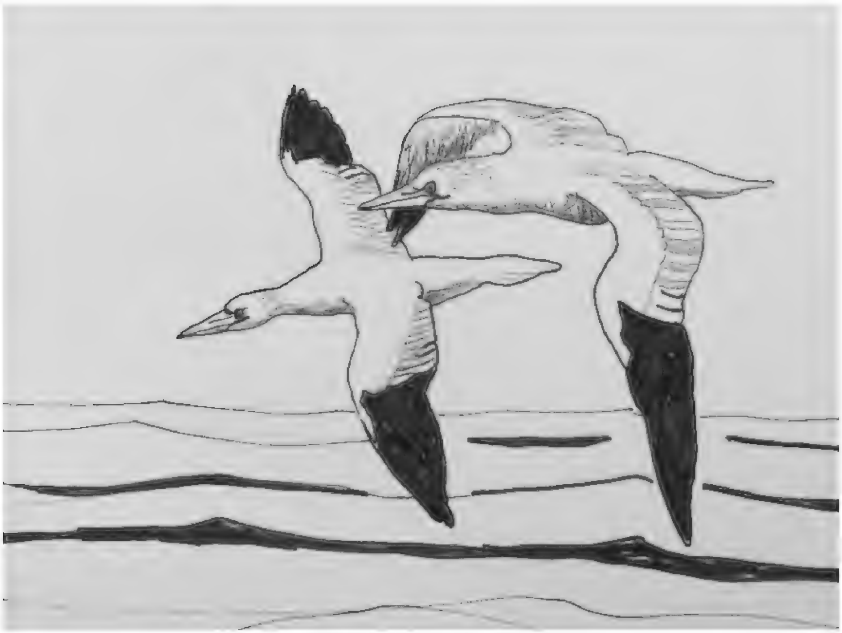

Northern Gannet sketch by Diane Ford

Pen and ink. Middle of the Chesapeake Bay (on a trip to Smith Island, Somerset County, Maryland), 17 April 2011.

Maryland Birdlife 67(2):52–72

Maryland Christmas Bird Counts (118th CBC) December 2017 through January 2018

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Weather was cooperative for most Maryland counts this season. Temperatures ranged from a low of -17.8 °C (0 °F) (Point Lookout) to a high of 12.2 °C (54 °F) (Southern Dorchester County). Low Temperatures averaged -6.4 °C (20.5 °F) and highs averaged 3.7 °C (38.7 °F). Six counts reported some snow on the ground with 15.2 cm (6 in) on the Patuxent River count being the deepest maximum depth. Chesterville, Rock Run, and Sugarloaf Mountain reported some light snow in at least some count sectors. Only Elkton reported light rain in the afternoon.

As pointed out in the corrigendum in the spring 2018 issue of *Maryland Birdlife* 67(1):51–52, we somehow missed or accidentally deleted in last year's report (117th count year) the Barrow's Goldeneye that has been found on the Point Lookout Christmas Bird Count for 7 years in a row (including this year).

Other waterfowl highlights included Greater White-fronted Geese in big numbers (Oakland [18], Rock Run [14], Lower Kent County [2], Ocean City [4]), single Ross's Geese observations at three inland counts (Allegany County, Washington County, Elkton), and two King Eiders (Triadelphia Reservoir). This year, 13 out of the 24 counts (not including two count week observations) reported Cackling Geese. There were two White-eyed Vireos (Middle River, Ocean City) and singles of Rufous Hummingbird (Patuxent River), Blue-gray Gnatcatcher (Elkton), LeConte's Sparrow (Seneca in Virginia), Yellow-headed Blackbird (Chesterville), Ovenbird (Lower Kent County), Painted Bunting (Ocean City), and Dickcissel (Port Tobacco [plus one Bowie count week observation]).

Count names, abbreviated codes, survey dates, and primary compilers are presented in Table 1. Additional effort data (number of participants, total party hours, and number of species) are also tabulated (Table 2). Seneca had the most field counters (124) and party hours (246.3). Allegany had the fewest (6) counters but Point Lookout had the fewest party hours (24.5).

Table 1. 2017–2018 Maryland Christmas Bird Counts: abbreviations, survey dates, and compilers.

Christmas Bird Count	Abbreviation	Survey Date	Compiler
Allegany County	MDAC	16 Dec 2017	J.B. Churchill
Annapolis-Gibson Island	MDAG	31 Dec 2017	Hal Wierenga Lynn Davidson Sue Ricciardi
Bowie	MDBO	1 Jan 2018	David Mozurkewich
Catoctin Mountain	MDCM	16 Dec 2017	Kathy Brown
Chesterville	MDCV	31 Dec 2017	Maren Gimpel
Crisfield	MDCR	27 Dec 2017	Paul Bystrak
Denton	MDDE	16 Dec 2017	Steve Westre
Elkton	MDEL	17 Dec 2017	Russell Kovach
Jug Bay	MDJB	17 Dec 2017	Marcia Watson
Lower Kent County	MDLK	17 Dec 2017	Nancy Martin Walter Ellison
Middle River	MDMR	17 Dec 2017	Pete Webb
Oakland	MDOA	16 Dec 2017	Connie Skipper
Ocean City	MDOC	28 Dec 2017	Mark Hoffman
Patuxent River	MDPR	31 Dec 2017	Andrew Brown
Point Lookout	MDPL	17 Dec 2017	Bob Boxwell
Port Tobacco	MDPT	17 Dec 2017	Mike Callahan
Rock Run	MDRR	30 Dec 2017	Mark Johnson
St. Michaels	MDST	17 Dec 2017	Wayne Bell
Salisbury	MDSA	17 Dec 2017	Mike Walsh
Seneca	MDSE	17 Dec 2017	Jim Nelson
Southern Dorchester County	MDSD	18 Dec 2017	Bruce Peterjohn
Sugarloaf Mountain	MDSM	31 Dec 2017	Janet Millenson
Triadelphia Reservoir	MDTR	16 Dec 2017	David Holmes
Washington County	MDWC	16 Dec 2017	Mark Abdy

Table 2. 2017–2018 Maryland Christmas Bird Counts: summary. (The Port Tobacco results are not official National Audubon Society data.)

Christmas Bird Count	Survey Date	Participants	Total Party Hours	Species
Allegany County	16 Dec 2017	6	31	65
Annapolis-Gibson Island	31 Dec 2017	60	212	101
Bowie	1 Jan 2018	75	236.8	90
Catoctin Mountain	16 Dec 2017	19	57	61
Chesterville	31 Dec 2017	96	89.55	20
Crisfield	27 Dec 2017	23	99.8	116
Denton	16 Dec 2017	16	52.5	92
Elkton	17 Dec 2017	85	32.5	12
Jug Bay	17 Dec 2017	53	157.9	107
Lower Kent County	17 Dec 2017	20	115.75	128
Middle River	17 Dec 2017	24	45.5	92
Oakland	16 Dec 2017	18	59	73
Ocean City	28 Dec 2017	67	207.2	143
Patuxent River	31 Dec 2017	28	56.75	90
Point Lookout	17 Dec 2017	15	24.5	102
Port Tobacco	17 Dec 2017	14	N/A	86
Rock Run	30 Dec 2017	35	93.1	98
St. Michaels	17 Dec 2017	45	97.9	104
Salisbury	17 Dec 2017	20	86.5	105
Seneca	17 Dec 2017	124	246.3	98
Southern Dorchester County	18 Dec 2017	14	60.25	118
Sugarloaf Mountain	31 Dec 2017	57	164.5	89
Triadelphia Reservoir	16 Dec 2017	65	158.62	89
Washington County	16 Dec 2017	24	83.75	70

The inland counts are summarized in Table 3; the tidewater counts, in Tables 4 and 5.

Table 3. 2017–2018 Maryland Christmas Bird Counts: inland counts.
(bolded species name = unusual for the Maryland counts; hc = high count record; lc = low count record; us = unusual for the specific count; cw = observed during count week)

Species	Oakland	Allegany County	Washington County	Catoctin Mountain	Sugarloaf Mountain	Seneca	Triadelphia Reservoir	Rock Run	Bowie	Elkton	Chesterville
Snow Goose	cw					cw	11	2	1		35,079
Ross's Goose		1	1							**1 (us)**	7
Greater White-fronted Goose	18							14			
Brant											
Cackling Goose	6	1			1	cw	2	**5**	3		22
Canada Goose	2094	969	804	252	3383	6183	13,099	10,723	11,389	6222	30,112
Snow x Canada Goose (hybrid)											
Mute Swan								8		4	1
Trumpeter Swan											
Tundra Swan	30		1		13	55		256		856	38
Wood Duck			1			4			4		3
Blue-winged Teal											
Northern Shoveler	1					15			1		1
Gadwall	13	3			24	18	6	14	4	52	64
Eurasian Wigeon						1					
American Wigeon	3				2	43					
Mallard	1445	65	332	18	92	761	266	592	409	761	529
American Black Duck	23	3	7		32	47	23	35	45	43	90
Mallard x Am. Black Duck (hybrid)				11							1
Northern Pintail	5	1			32	cw	10	1	cw		11
Green-winged Teal					4	8	3				4
Canvasback	6				2	2		200		345	
Redhead	38		1		6	1			6	6	
Ring-necked Duck	23	2			32	317	17	283	47	526	1
Greater Scaup								12		1	
Lesser Scaup	22					cw		466	**20 (hc)**	11	30
scaup sp.								200			
Aythya sp.											
King Eider							**2 (us)**				
Common Eider											

Species	Oakland	Allegany County	Washington County	Catoctin Mountain	Sugarloaf Mountain	Seneca	Triadelphia Reservoir	Rock Run	Bowie	Elkton	Chesterville
Harlequin Duck											
Surf Scoter	**2 (hc)**										
White-winged Scoter											
Black Scoter											
scoter sp.											
Long-tailed Duck						cw		cw			
Bufflehead	120	4	4		42	224	1	119	7	44	
Common Goldeneye	5					1	1	78	1	6	
Barrow's Goldeneye											
Hooded Merganser	195	62	10		66	128	120	190	28	30	51
Common Merganser	13	8	78		143	26	1464	610	**25 (hc)**	42	301
Red-breasted Merganser	6					cw	3	5		8	2
merganser sp.											
Ruddy Duck	198				5	cw		42	13	383	1
duck sp.						51		300			
Northern Bobwhite											47
Ring-necked Pheasant						1				2	
Ruffed Grouse	3										
Wild Turkey	60		10			11	**36 (hc)**		16		6
Pied-billed Grebe	15	1	1	1	4	22		18		3	
Horned Grebe	34				1	cw		3			
Red-necked Grebe						cw					
Rock Pigeon	106	220	535	246	191	249	184	269	294	3	99
Mourning Dove	53	14	250	208	286	455	732	128	777	57	288
Rufous Hummingbird											
Clapper Rail											
King Rail											
Virginia Rail											
Sora											
Common Gallinule											
American Coot	20				13	cw		93	1	33	2
Sandhill Crane						2					
American Oystercatcher											
Black-bellied Plover											
Semipalmated Plover											
Killdeer		4	1			10	10	3	7	4	
Ruddy Turnstone											
Red Knot											

Species	Oakland	Allegany County	Washington County	Catoctin Mountain	Sugarloaf Mountain	Seneca	Triadelphia Reservoir	Rock Run	Bowie	Elkton	Chesterville
Sanderling											
Dunlin											
Purple Sandpiper											
Least Sandpiper											
Western Sandpiper											
Long-billed Dowitcher											
dowitcher sp.											
American Woodcock						1			2		
Wilson's Snipe					4		1	cw			
Lesser Yellowlegs											
Greater Yellowlegs											
yellowlegs sp.											
Bonaparte's Gull	1										
Laughing Gull											
Ring-billed Gull	3		1		3	720	82	7814	344	1274	121
Herring Gull						8		97	47	162	4
Iceland Gull											
Lesser Black-backed Gull											1
Great Black-backed Gull								239		72	
gull sp.	cw				3	174	1	85	35		
Forster's Tern											
Red-throated Loon											
Common Loon	3	1				1					1
Northern Gannet											
Double-crested Cormorant	cw					10	**9 (hc)**	76		26	13
Great Cormorant											
American White Pelican											
Brown Pelican											
American Bittern											
Great Blue Heron (blue form)	1	1	13	3	13	65	10	151	23	27	32
Great Egret											
Black-crowned Night-Heron								3			
Black Vulture		7	41	82	119	223	258	238	198	4	69
Turkey Vulture	4	2	71	151	210	169	230	157	118	57	254
Golden Eagle											
Northern Harrier		4			2	3	**12 (hc)**	4	2	3	7
Sharp-shinned Hawk	cw	1	3		3	7	4	2	8	1	12
Cooper's Hawk	4	4	5	4	9	12	7	2	8	4	13

Species	Oakland	Allegany County	Washington County	Catoctin Mountain	Sugarloaf Mountain	Seneca	Triadelphia Reservoir	Rock Run	Bowie	Elkton	Chesterville
Accipiter sp.					2	4					1
Bald Eagle	3	4	5	4	14	15	59	151	37	30	123
Red-shouldered Hawk	6	2	12	19	53	88	45	17	51	10	13
Red-tailed Hawk	19	5	27	38	52	29	46	22	41	7	118
Rough-legged Hawk						1					
Buteo sp.											
Barn Owl											
Eastern Screech-Owl			2			1		7	3		15
Great Horned Owl	1				1	2	4	2	9	2	13
Snowy Owl								1			
Barred Owl	2			2	2	17	2	5	**18 (hc)**	2	6
Short-eared Owl					2		3				
Belted Kingfisher	2	3	8	10	11	25	19	13	12	3	8
Red-headed Woodpecker	1		1	4		36		1			1
Red-bellied Woodpecker	20	31	54	95	292	487	200	94	318	39	148
Yellow-bellied Sapsucker	1	9	13	**24 (hc)**	114	138	33	36	71	18	39
Downy Woodpecker	30	25	50	43	204	367	138	70	205	27	80
Hairy Woodpecker	15	4	5	8	39	79	23	19	40	10	23
Northern Flicker (Yellow-shafted)		16	21	27	155	287	112	43	234	22	123
Pileated Woodpecker	7	8	19	11	66	178	44	16		11	12
American Kestrel	3	2	8	28	15	4	3	4	2	2	4
Merlin			1		1	4	1	1		2	1
Peregrine Falcon		1	1		1		2	2			
falcon sp.											
Eastern Phoebe		1	2	1	2	8	1	1	6		2
White-eyed Vireo											
Blue-headed Vireo											
Blue Jay	68	43	74	161	321	599	353	161	476	106	199
American Crow	1846	252	358	104	926	2294	1675	305	2850	430	131
Fish Crow					20	1220	144	2	712	87	6
crow sp.					1184	2832	447	83	1050		3
Common Raven	11	18	2	22	11	7	8	2	4		
Horned Lark	46		126	126	333	62	3	52	13		492
Tree Swallow											
Carolina Chickadee			139	72	433	662	272	118	375	95	190
Black-capped Chickadee	196	32	2	73							
chickadee sp.											
Tufted Titmouse	107	51	95	73	262	478	259	113	356	54	94

Species	Oakland	Allegany County	Washington County	Catoctin Mountain	Sugarloaf Mountain	Seneca	Triadelphia Reservoir	Rock Run	Bowie	Elkton	Chesterville
Red-breasted Nuthatch	5										
White-breasted Nuthatch	47	31	70	52	188	350	159	52	167	29	36
Brown-headed Nuthatch											
Brown Creeper	10	2	4	1	17	36	2	11	10	6	16
House Wren							1	1			
Winter Wren		10	6	3	35	70	34	18	49	7	16
Sedge Wren											
Marsh Wren											
Carolina Wren	7	74	151	101	234	552	259	115	394	93	148
Blue-gray Gnatcatcher										**1 (us)**	
Golden-crowned Kinglet	23	11	38	11	75	201	21	62	96	15	71
Ruby-crowned Kinglet			1	1	16	119	8	24	16	11	22
kinglet sp.						1					
Eastern Bluebird	3	38	96	135	462	468	371	128	315	103	162
Hermit Thrush		1	2	5	21	27	16	31	168	9	47
American Robin		43	732	**1399 (hc)**	259	1383	152	183	1817	122	478
Gray Catbird					2	4	1	3		2	**6**
Brown Thrasher					3	1	2	6	14		10
Northern Mockingbird		24	52	62	112	131	94	43	182	49	99
European Starling	390	200	1898	3570	2729	2677	1894	1900	4678	613	5757
Cedar Waxwing		130	68	154	547	817	111	110	129	11	48
House Sparrow	53	25	204	205	159	149	143	176	490	168	105
American Pipit					15		1	46	16		153
House Finch	41	14	183	115	212	198	117	87	276	40	49
Purple Finch			2			10					
Pine Siskin	6	2				1			2		
American Goldfinch	17	59	140	96	308	331	246	36	311	27	54
Snow Bunting											
Eastern Towhee		1		8	42	45	30	29	111	16	44
American Tree Sparrow	24	8			24	3		2	9	4	4
Chipping Sparrow				**3**	54	27	9	2	57	5	123
Field Sparrow		11	2	2	53	77	46	33	185	13	184
Savannah Sparrow				2	2	29	26	42	110	4	158
Savannah Sparrow (Ipswich)											
LeConte's Sparrow						1					
Seaside Sparrow											
Nelson's Sparrow											
Nelson's/Saltmarsh Sparrow											

Species	Oakland	Allegany County	Washington County	Catoctin Mountain	Sugarloaf Mountain	Seneca	Triadelphia Reservoir	Rock Run	Bowie	Elkton	Chesterville
Fox Sparrow	1				5	24	10	6	24		15
Song Sparrow	20	73	45	61	383	653	626	308	850	106	935
Lincoln's Sparrow							1		1		
Swamp Sparrow	cw	3		2	38	59	23	27	127	27	43
White-throated Sparrow	1	86	240	278	1727	1894	1623	1113	3503	473	2664
White-crowned Sparrow				27	122	31	47	10	27		74
sparrow sp.				28	3						
Dark-eyed Junco (Slate-colored)	246	171	343	491	1924	904	783	730	2211	430	1848
Yellow-headed Blackbird											1
Eastern Meadowlark	1			8		4					24
Baltimore Oriole							1				
Red-winged Blackbird	3	30		337	193	627	150297	329	4630	631	44917
Brown-headed Cowbird	2		1	81	40	97	652	84	7	24	94
Rusty Blackbird				13	1	9	5		41	2	2
Common Grackle			35		15	114	2609	10365	126	55	26578
Boat-tailed Grackle											
blackbird sp.					110	950		16	5002		
Ovenbird											
Orange-crowned Warbler											
Common Yellowthroat									1		
Palm Warbler			2						1		1
Palm Warbler (Western)											
Palm Warbler (Yellow)											2
Pine Warbler			1		1			cw			
Yellow-rumped Warbler (Myrtle)		11	8	10	112	266	15	28	26	72	191
Northern Cardinal	53	96	114	126	618	723	440	289	914	89	515
Indigo Bunting											
Painted Bunting											
Dickcissel									cw		

Table 4. 2017–2018 Maryland Christmas Bird Counts: tidewater counts (Western Shore). (bolded species name = unusual for the Maryland counts; hc = high count record; lc = low count record; us = unusual for the specific count; cw = observed during count week) (The Port Tobacco results are not official National Audubon Society data.)

Species	Annapolis-Gibson Island	Middle River	Patuxent River	Jug Bay	Port Tobacco	Point Lookout
Snow Goose	11			8	1	
Ross's Goose			1			
Greater White-fronted Goose						
Brant						
Cackling Goose	6			cw		1
Canada Goose	8133	1680	2981	17,090	2511	3966
Snow x Canada Goose (hybrid)						
Mute Swan		cw	1	1		
Trumpeter Swan	1					
Tundra Swan	773	10	47	117	10	45
Wood Duck	2		21	3		6
Blue-winged Teal				1		
Northern Shoveler		10		7		
Gadwall	17	144	21	112		1
Eurasian Wigeon						
American Wigeon	17	**108 (hc)**		4	23	
Mallard	1017	668	141	1511 (+ 2 domestic)	37	34
American Black Duck	54	15	7	634	45	10
Mallard x Am. Black Duck (hybrid)						
Northern Pintail	6			64	3	
Green-winged Teal				95		
Canvasback	4687	**51 (hc)**				3
Redhead	10	cw				1
Ring-necked Duck	10	3		70		
Greater Scaup	10457	**38 (hc)**		213		154
Lesser Scaup	1637	638				19
scaup sp.	2873					
Aythya sp.				1		
King Eider						

Species	Annapolis-Gibson Island	Middle River	Patuxent River	Jug Bay	Port Tobacco	Point Lookout
Common Eider						
Harlequin Duck						
Surf Scoter	211			72		364
White-winged Scoter		1				3
Black Scoter			30			2541
scoter sp.						
Long-tailed Duck	76		40	47	12	388
Bufflehead	2501	215	511	966	290	1576
Common Goldeneye	51	2	31	8		409
Barrow's Goldeneye						1
Hooded Merganser	289	251	53	62	15	20
Common Merganser	10	27		206	5	
Red-breasted Merganser	94	4	28	2		79
merganser sp.	40					
Ruddy Duck	14050	**5390 (hc)**	1172	127	2110	7615
duck sp.				4200		3000
Northern Bobwhite						
Ring-necked Pheasant						
Ruffed Grouse						
Wild Turkey	12			5	11	11
Pied-billed Grebe	22	19	1	4		1
Horned Grebe	21	2	54	11		58
Red-necked Grebe						
Rock Pigeon	53	119	40	87	1	1
Mourning Dove	401	**456 (hc)**	86	317	118	24
Rufous Hummingbird			**1 (us)**			
Clapper Rail						
King Rail						
Virginia Rail		2		4		
Sora						
Common Gallinule						
American Coot	3	21	15	1		2
Sandhill Crane		**10 (hc; us)**				
American Oystercatcher						
Black-bellied Plover						
Semipalmated Plover				cw		
Killdeer	2	28	2	131	10	5

Species	Annapolis-Gibson Island	Middle River	Patuxent River	Jug Bay	Port Tobacco	Point Lookout
Ruddy Turnstone						
Red Knot						
Sanderling						
Dunlin						
Purple Sandpiper				8		
Least Sandpiper				4		
Western Sandpiper						
Long-billed Dowitcher						
dowitcher sp.						
American Woodcock	1				4	1
Wilson's Snipe				16		
Lesser Yellowlegs						
Greater Yellowlegs					8	
yellowlegs sp.						
Bonaparte's Gull	2	64	9	cw		110
Laughing Gull						
Ring-billed Gull	2079	3826	596	2241	190	880
Herring Gull	1081	228	104	947	269	229
Iceland Gull	1	cw				
Lesser Black-backed Gull	1					
Great Black-backed Gull	57	47	40	112	2	88
gull sp.	258	51		102	48	2
Forster's Tern						
Red-throated Loon	1					
Common Loon	5	10	29	6		22
Northern Gannet			4			38
Double-crested Cormorant	6052	184	85	339	389	166
Great Cormorant		1				3
American White Pelican						
Brown Pelican			70			
American Bittern						
Great Blue Heron (Blue form)	66	56	8	61	35	35
Great Egret				3		
Black-crowned Night-Heron						
Black Vulture	101	22	143	547	62	10
Turkey Vulture	99	31	129	157	41	86
Golden Eagle						

Species	Annapolis-Gibson Island	Middle River	Patuxent River	Jug Bay	Port Tobacco	Point Lookout
Northern Harrier	1		2	15	5	1
Sharp-shinned Hawk	9	1	1	10	2	1
Cooper's Hawk	11	6	2	12	1	**6 (hc)**
Accipiter sp.	1	1			1	
Bald Eagle	71	20	26	129	54	17
Red-shouldered Hawk	19	16	11	38	14	6
Red-tailed Hawk	22	14	7	24	9	4
Rough-legged Hawk						
Buteo sp.	1	1				
Barn Owl				6		
Eastern Screech-Owl	9		2	8	10	4
Great Horned Owl	cw	1	3	12	6	15
Snowy Owl						
Barred Owl	2	3		9		1
Short-eared Owl			1		2	1
Belted Kingfisher	25	12	**2 (lc)**	43	19	10
Red-headed Woodpecker				15	12	4
Red-bellied Woodpecker	285	51	48	238	59	27
Yellow-bellied Sapsucker	110	10	16	45	9	8
Downy Woodpecker	226	52	37	141	22	13
Hairy Woodpecker	30	5	6	32	13	
Northern Flicker (Yellow-shafted)	112	53	20	149	25	16
Pileated Woodpecker	32	2	12	66	11	8
American Kestrel			2	3	2	4
Merlin	1	1				
Peregrine Falcon	2	1		1		1
falcon sp.						
Eastern Phoebe	1		3	18	6	7
White-eyed Vireo		**1 (us)**				
Blue-headed Vireo						
Blue Jay	413	162	66	315	114	49
American Crow	465	163	92	944	115	143
Fish Crow	121	86	6	91	3	1
crow sp.	74	13	6	7		9
Common Raven	1	2			2	
Horned Lark				19		
Tree Swallow						

Species	Annapolis-Gibson Island	Middle River	Patuxent River	Jug Bay	Port Tobacco	Point Lookout
Carolina Chickadee	436	102	138	276	47	93
Black-capped Chickadee						
chickadee sp.				1		
Tufted Titmouse	354	67	97	211	72	75
Red-breasted Nuthatch						
White-breasted Nuthatch	114	24	24	111	21	1
Brown-headed Nuthatch			6			26
Brown Creeper	14	2	8	7	1	2
House Wren					1	
Winter Wren	39	17	4	30	1	4
Sedge Wren						
Marsh Wren						
Carolina Wren	312	118	52	336	96	102
Blue-gray Gnatcatcher						
Golden-crowned Kinglet	30	9	19	41	2	10
Ruby-crowned Kinglet	23	12	32	65	4	9
kinglet sp.						
Eastern Bluebird	161	10	98	400	70	64
Hermit Thrush	133	12	15	123	35	7
American Robin	3244	194	149	516	435	86
Gray Catbird	6	2	1	13	1	1
Brown Thrasher	32	5	6	36	8	5
Northern Mockingbird	137	42	46	115	22	27
European Starling	2266	2735	2091	51,623	634	384
Cedar Waxwing	894	8	413	127	154	185
House Sparrow	418	175	29	136	23	61
American Pipit		2		163		30
House Finch	229	81	23	93	9	86
Purple Finch						
Pine Siskin		cw				
American Goldfinch	352	46	60	186	73	45
Snow Bunting						
Eastern Towhee	111	52	5	191	26	10
American Tree Sparrow	2	4	2			
Chipping Sparrow	27		7	25	4	9
Field Sparrow	51	16	3	104	3	1
Savannah Sparrow			15	34	29	23

Species	Annapolis-Gibson Island	Middle River	Patuxent River	Jug Bay	Port Tobacco	Point Lookout
Savannah Sparrow (Ipswich)						
LeConte's Sparrow						
Seaside Sparrow						
Nelson's Sparrow						
Nelson's/Saltmarsh Sparrow						
Fox Sparrow	11	11		24		1
Song Sparrow	444	155	79	551	134	66
Lincoln's Sparrow						
Swamp Sparrow	27	59	41	92	60	10
White-throated Sparrow	2409	507	388	1792	376	139
White-crowned Sparrow			9	2		
sparrow sp.						
Dark-eyed Junco (Slate-colored)	2048	236	501	1091	337	74
Yellow-headed Blackbird						
Eastern Meadowlark			60	79	55	69
Baltimore Oriole	1					
Red-winged Blackbird	1418	1535	1124	30,7334	1254	2568
Brown-headed Cowbird	18	24	3	87	43	27
Rusty Blackbird	46	25		32		**374 (hc)**
Common Grackle	647	**2111 (hc)**	1239	51,3550	2157	1665
Boat-tailed Grackle						
blackbird sp.	8	8	50	50,0002	25	10460
Ovenbird						
Orange-crowned Warbler						
Common Yellowthroat				1		
Palm Warbler						2
Palm Warbler (Western)		1				
Palm Warbler (Yellow)						
Pine Warbler				1		14
Yellow-rumped Warbler (Myrtle)	119	17	164	191	156	294
Northern Cardinal	843	218	170	478	89	120
Indigo Bunting						
Painted Bunting						
Dickcissel					**1 (us)**	

Table 5. 2017–2018 Maryland Christmas Bird Counts: tidewater counts (Eastern Shore). (bolded species name = unusual for the Maryland counts; hc = high count record; lc = low count record; us = unusual for the specific count; cw = observed during count week)

Species	Lower Kent County	Denton	St. Michaels	Southern Dorchester County	Crisfield	Salisbury	Ocean City
Snow Goose	8887	172	5	1721		3	9474
Ross's Goose	1						
Greater White-fronted Goose	2						4
Brant	1						652
Cackling Goose	31		5			1	1
Canada Goose	63,084	2037	43,609	11,489	768	13,320	10,189
Snow x Canada Goose (hybrid)	2						
Mute Swan	4		3				
Trumpeter Swan							
Tundra Swan	1024	47	1051	795	246	23	230
Wood Duck	4	20		1	**39 (hc)**	28	38
Blue-winged Teal							
Northern Shoveler	168	2	5	63			116
Gadwall	1859		10	36	33		294
Eurasian Wigeon							
American Wigeon	36		6	1	4		156
Mallard	6126	158	448	2203	248	289	1987
American Black Duck	920	7	52	396	405	34	924
Mallard x Am. Black Duck (hybrid)	1						
Northern Pintail	201	5	27	1270			113
Green-winged Teal	2453	5	cw	16	29	6	58
Canvasback	9886		83	3000	157	77	222
Redhead	38		2			2	3
Ring-necked Duck	535	66		16	9	7	261
Greater Scaup	1734		23			2	2
Lesser Scaup	19,867	5	75	49		103	23
scaup sp.	4179		12				11
Aythya sp.							
King Eider							
Common Eider							22
Harlequin Duck							2

Species	Lower Kent County	Denton	St. Michaels	Southern Dorchester County	Crisfield	Salisbury	Ocean City
Surf Scoter	67		1511		645		53
White-winged Scoter	5		cw				1
Black Scoter	29		14				13
scoter sp.			12		500		126
Long-tailed Duck	745		1326		36	1	50
Bufflehead	2264	15	4110	336	709	113	2034
Common Goldeneye	399		344	60	1	2	9
Barrow's Goldeneye							
Hooded Merganser	81	20	42	112	105	30	222
Common Merganser	10	**63 (hc)**		116			
Red-breasted Merganser	15		9	50	15	1	228
merganser sp.							
Ruddy Duck	6920	11	2456	68	1306	570	69
duck sp.	22,000				80		
Northern Bobwhite	1	2					
Ring-necked Pheasant							
Ruffed Grouse							
Wild Turkey	50	26	92		54	12	
Pied-billed Grebe	6	**6 (hc)**	cw	5	1	8	17
Horned Grebe	30		95	8	12		13
Red-necked Grebe							1
Rock Pigeon	68	305	21	4	223	77	190
Mourning Dove	273	295	189	48	142	331	447
Rufous Hummingbird							
Clapper Rail				10	2	1	
King Rail	1			8			
Virginia Rail	13		cw	20	26	6	3
Sora					1	1	
Common Gallinule		1					1
American Coot	1	1		20		6	40
Sandhill Crane							
American Oystercatcher							7
Black-bellied Plover				**6 (hc)**			94
Semipalmated Plover							
Killdeer	40	64	48	44	18	58	195
Ruddy Turnstone					1		3
Red Knot							1

Species	Lower Kent County	Denton	St. Michaels	Southern Dorchester County	Crisfield	Salisbury	Ocean City
Sanderling							155
Dunlin			75	661	44		3895
Purple Sandpiper							20
Least Sandpiper			1				
Western Sandpiper				**6 (hc)**			
Long-billed Dowitcher					13		1
dowitcher sp.							4
American Woodcock	4			4	2	2	13
Wilson's Snipe	1	9		4	10	1	18
Lesser Yellowlegs				3	6		2
Greater Yellowlegs				42	78		44
yellowlegs sp.					1		
Bonaparte's Gull	1		3		2		2
Laughing Gull							1
Ring-billed Gull	619	1359	411	1159	936	732	1945
Herring Gull	332	121	374	459	1590	243	1035
Iceland Gull							
Lesser Black-backed Gull	2			3		1	1
Great Black-backed Gull	64	2	25	3	52	38	76
gull sp.						197	415
Forster's Tern							1
Red-throated Loon	5				1	1	56
Common Loon	37		70	15	7	8	112
Northern Gannet			1				15
Double-crested Cormorant	1305	7	3	4	1	87	42
Great Cormorant	7						
American White Pelican				24			
Brown Pelican							
American Bittern					2		
Great Blue Heron (Blue form)	77	18	52	86	109	33	117
Great Egret					20	1	2
Black-crowned Night-Heron			cw		7		cw
Black Vulture	69	141	56	36	83	22	293
Turkey Vulture	293	270	225	293	**1341 (hc)**	323	682
Golden Eagle			1	2			1
Northern Harrier	15	5	5	37	39	9	13
Sharp-shinned Hawk	7	5	8	2	6	4	9

Species	Lower Kent County	Denton	St. Michaels	Southern Dorchester County	Crisfield	Salisbury	Ocean City
Cooper's Hawk	9	9	8	1	9	9	7
Accipiter sp.				2	1	2	1
Bald Eagle	143	20	60	131	**129 (hc)**	66	**142 (hc)**
Red-shouldered Hawk	14	**16 (hc)**	13	5	8	13	10
Red-tailed Hawk	40	31	19	12	14	24	20
Rough-legged Hawk							
Buteo sp.							
Barn Owl	1			6		1	2
Eastern Screech-Owl	64	9	48	27	8	28	19
Great Horned Owl	60	7	54	24	21	22	11
Snowy Owl			cw				2
Barred Owl	8	8	6	1	2		1
Short-eared Owl			cw	8			1
Belted Kingfisher	20	7	24	14	22	18	29
Red-headed Woodpecker				6			
Red-bellied Woodpecker	163	55	74	31	43	64	60
Yellow-bellied Sapsucker	43	15	24	5	3	16	17
Downy Woodpecker	97	23	48	61	73	60	60
Hairy Woodpecker	27	7	18	7	13	10	39
Northern Flicker (Yellow-shafted)	189	65	108	44	80	63	106
Pileated Woodpecker	29	18	21	17	13	36	9
American Kestrel	8	14	7	5	10	10	**10 (lc)**
Merlin	1		1	1	3	5	5
Peregrine Falcon	1	1		1	1		
falcon sp.		1					
Eastern Phoebe	3	**10 (hc)**		6	16	13	39
White-eyed Vireo							**1 (us)**
Blue-headed Vireo					1		
Blue Jay	427	128	269	36	75	126	105
American Crow	236	200	551	266	402	249	342
Fish Crow	1	**20 (hc)**	78	1825	63	83	18
crow sp.	9		7	800	855	114	1074
Common Raven							
Horned Lark	287	127	2		19	6	73
Tree Swallow						1	3
Carolina Chickadee	213	86	140	134	145	132	253
Black-capped Chickadee							

Species	Lower Kent County	Denton	St. Michaels	Southern Dorchester County	Crisfield	Salisbury	Ocean City
chickadee sp.							
Tufted Titmouse	166	65	83	52	26	57	136
Red-breasted Nuthatch			3				
White-breasted Nuthatch	20	17	14	1	2	2	
Brown-headed Nuthatch	22		40	180	**147 (hc)**	42	67
Brown Creeper	11	6	8	4	8	7	11
House Wren	5		1	2	1	1	6
Winter Wren	38	11	6	11	21	26	46
Sedge Wren	2			2	3	1	
Marsh Wren	3		cw	9	14		1
Carolina Wren	282	105	113	63	87	144	182
Blue-gray Gnatcatcher							
Golden-crowned Kinglet	66	30	59	48	31	35	95
Ruby-crowned Kinglet	44	**15 (hc)**	52	44	52	31	26
kinglet sp.							
Eastern Bluebird	232	223	270	95	170	123	203
Hermit Thrush	26	40	34	19	69	67	54
American Robin	165	1961	626	374	703	588	14925
Gray Catbird	6	**4 (hc)**	6	7	10	11	30
Brown Thrasher	25	**12 (hc)**	**19 (hc)**	6	12	16	25
Northern Mockingbird	137	72	139	33	47	76	127
European Starling	3649	1927	1245	1428	1516	1180	8784
Cedar Waxwing	94	9	358	3	35		71
House Sparrow	62	302	50	17	25	46	**99 (lc)**
American Pipit	35	130	1	39			4
House Finch	66	57	121	4	11	24	108
Purple Finch	1		3				2
Pine Siskin	1						
American Goldfinch	163	42	144	54	29	58	129
Snow Bunting							22
Eastern Towhee	147	33	11	14	10	31	26
American Tree Sparrow				4			
Chipping Sparrow	8	118	5	1	42	78	179
Field Sparrow	86	19	9	5	40	20	70
Savannah Sparrow	127	30	21	62	21	48	99
Savannah Sparrow (Ipswich)							16
LeConte's Sparrow							

Species	Lower Kent County	Denton	St. Michaels	Southern Dorchester County	Crisfield	Salisbury	Ocean City
Seaside Sparrow					3		
Nelson's Sparrow							1
Nelson's/Saltmarsh Sparrow				2	1		
Fox Sparrow	44	4	1	9	36	47	71
Song Sparrow	1115	133	201	336	249	342	620
Lincoln's Sparrow							
Swamp Sparrow	364	20	43	283	180	137	233
White-throated Sparrow	2268	1497	546	131	360	688	1639
White-crowned Sparrow	41	1	3			3	
sparrow sp.							
Dark-eyed Junco (Slate-colored)	626	852	529	13	289	316	1008
Yellow-headed Blackbird							
Eastern Meadowlark	28	29	12	52	55	15	277
Baltimore Oriole							
Red-winged Blackbird	15,102	529	2153	24,692	7363	2746	7349
Brown-headed Cowbird	888	28	50	155	2	5	848
Rusty Blackbird	19			12	14		1
Common Grackle	18,779	6690	546	211	115	946	117
Boat-tailed Grackle				23	124		41
blackbird sp.	12,900	600				845	50
Ovenbird	**1 (us)**						
Orange-crowned Warbler	1				2	2	3
Common Yellowthroat							2
Palm Warbler	1	**33 (hc)**		3	13	3	
Palm Warbler (Western)		10					6
Palm Warbler (Yellow)							
Pine Warbler	1	2	5	1	2	4	8
Yellow-rumped Warbler (Myrtle)	322	8	425	415	1361	156	3597
Northern Cardinal	592	150	194	65	128	191	443
Indigo Bunting	**1 (us)**						
Painted Bunting							**1 (us)**
Dickcissel							

Maryland Birdlife 67(2):73–78

2018 Maryland Mid-winter Bird Count

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The annual Maryland Mid-winter Bird Count was held 20 January through 3 February 2018. Results were submitted from Frederick, Carroll, Howard, and Baltimore Counties. Data were also submitted from the Chesapeake and Ohio (C&O) Canal for seven of its nine count days.

The C&O Canal locations included Montgomery County miles 15, 17, 18, 20, 21, 31 and 32; Frederick County (none for the actual count, but miles 46 and 58 were originally submitted as part of the Frederick County Mid-winter Count); Washington County miles 59 through 65, 68, and 70 through 72, with milepost 99 as a stationary count; and Allegany County miles 172 through 174, and mile 184 to Canal Terminus. Additional C&O Canal count compilation information can be found on eBird at: https://ebird.org/view/checklist/S44128936.

The weather on the count days was typical for the end of January into February. Temperatures ranged from 33–55 °F (0.6–12.8 °C) with a one-day high of 60 °F (15.6 °C). The skies were overcast with intermittent light rain. Winds were light around 5 mph (8 kph) and the area waterways were open or had slight icing along the edges.

Table 1. 2018 Maryland Mid-winter Count: Participating counties, county codes, dates, and compilers.

County	County Code	Date	Compiler
C&O Canal (Allegany, Washington, Montgomery)	C&O	27 January–4 February 2018	James Speicher & Frank Boyle
Frederick	FR	28 January 2018	David Smith
Carroll	CA	20 January 2018	Don Jewell
Howard	HO	27 January 2018	Joe Hanfman
Baltimore	BA	27 January 2018	Kevin Graff

A total of 181 field observers comprising 121 parties reported 112 species for a total of 95,876 birds. The observers spent 327.68 hours on foot covering 272.05 mi (437.0 km). During the two-week count period, the observers also spent 162.58 hours traveling 1,941.8 mi (3,125.0 km) by car. Three counties reported time owling. These groups covered 42.3 mi (68.1 km) in 9.35 hours. A total of 39.2 hours was spent feeder watching.

Table 2. 2018 Maryland Mid-winter Count: Summary.

	C&O Canal	Frederick County	Carroll County	Howard County	Baltimore County
Total Species	63	91	70	88	92
Total Birds	3,006	28,561	18,299	31,508	14,502
Start Time		0500	0600	0210	0645
Stop Time		1740	1815	2315	1600
Parties	15	12	11	55	28
Number of Observers	24	33	19	74	31
Hours Driving		91.03	29.05	41.4	1.1
Miles Driving		972	383.5	530.8	55.5
Hours Walking	26.93	35.75	41.2	166.7	57.1
Miles Walking	22.5	25.65	41.3	150.5	32.1
Hours Owling		2.5	1.75	5.1	
Miles Owling		20	0.5	21.8	
Feeder Hours		3.5	9	19.7	7
Stationary Hours	1		1	1.9	

As usual for this time of year, over 20 species of waterfowl were observed during this year's count. Canada Geese comprised the largest group with 26,364 individuals counted followed by Mallards with 1,846. Eleven species of sparrows were also observed this year. (Table 3).

The 9.35 hours spent owling produced four species for a total of 44 owls. This year's count included a high of 21 Barred Owls followed closely by 13 Great Horned Owls. Howard County had all four species represented including the lone Long-eared Owl recorded this year.

Observations of note in this year's count:

Several species of geese were recorded in the western counties this year. Snow Geese were recorded in Frederick and Carroll Counties. Two Ross's Geese were recorded in Frederick County and a total of 9 Greater White-fronted Geese were included in the C&O Canal and Frederick and Carroll Counties. Also included in this year's count was a Trumpeter Swan in Howard County.

One Great Cormorant was spotted in Baltimore.

All seven woodpecker species were represented this year. Frederick County had a high count of 12 Red-headed and 267 Red-bellied Woodpeckers.

Table 3. 2018 Maryland Mid-winter Count: Observed species.

Species	C&O Canal	Frederick County	Carroll County	Howard County	Baltimore County
Snow Goose		2	1		
Ross's Goose		2			
Greater White-fronted Goose	6	1	2		
Cackling Goose		6			
Canada Goose	493	7269	8514	8313	1775
Mute Swan		1			
Trumpeter Swan				1	
Tundra Swan		15			5
Wood Duck		4		5	2
Northern Shoveler		12		6	40
Gadwall		8	5	8	44
American Wigeon		7		1	9
Mallard	139	731	217	314	445
American Black Duck	18	89	7	9	59
Northern Pintail	3	1	4		
Canvasback		1			602
Redhead	2		18		8
Ring-necked Duck	228	15	14	41	31
Greater Scaup					26
Lesser Scaup	6			1	1287
scaup sp.					140
Bufflehead	74	1		16	327
Common Goldeneye	63	2			
Hooded Merganser	22	19	4	55	43
Common Merganser	111	133	2	242	133
Red-breasted Merganser				1	8
Ruddy Duck			11	5	891
Ring-necked Pheasant			1		1
Wild Turkey		48	2	25	
Pied-billed Grebe				3	10
Horned Grebe					6

Species	C&O Canal	Frederick County	Carroll County	Howard County	Baltimore County
grebe sp.		1			
Rock Pigeon	22	723	178	140	334
Mourning Dove	6	846	248	1322	119
Virginia Rail					2
American Coot		4			24
Killdeer		1			4
American Woodcock				1	
Wilson's Snipe				1	
Bonaparte's Gull					48
Ring-billed Gull	78	8	72	429	3473
Herring Gull	1				277
Great Black-backed Gull					177
gull sp.				1	32
Double-crested Cormorant					277
Great Cormorant					1
Great Blue Heron	9	10	2	16	26
Black Vulture	27	95	131	364	140
Turkey Vulture	43	132	234	419	123
Northern Harrier		2	1	3	1
Sharp-shinned Hawk	1	5	6	10	3
Cooper's Hawk	4	14	5	10	7
Accipiter sp.				3	
Bald Eagle	8	5	7	21	29
Red-shouldered Hawk	8	67	21	95	20
Red-tailed Hawk	10	73	45	65	18
Buteo sp.					1
Eastern Screech-Owl		6	2	1	
Great Horned Owl		3		10	
Barred Owl	3	2	3	13	
Long-eared Owl				1	
Belted Kingfisher	4	16	4	9	8
Red-headed Woodpecker		12	3	3	1
Red-bellied Woodpecker	63	267	115	262	56

Species	C&O Canal	Frederick County	Carroll County	Howard County	Baltimore County
Yellow-bellied Sapsucker	12	16	2	6	3
Downy Woodpecker	46	113	61	190	45
Hairy Woodpecker	10	32	16	39	5
Downy/Hairy Woodpecker					3
Northern Flicker	25	134	35	89	31
Pileated Woodpecker	31	35	22	56	8
American Kestrel	1	23	11	12	1
Merlin	1	3		1	1
Peregrine Falcon					1
Eastern Phoebe	1	1		1	3
Blue Jay	12	564	170	550	93
American Crow	104	702	1942	1372	198
Fish Crow	3	161	80	233	148
crow sp.	4	101		1066	187
Common Raven	4	12	2	7	
Horned Lark		90	178	27	
Carolina Chickadee	135	432	204	518	101
Tufted Titmouse	83	313	149	465	96
White-breasted Nuthatch	52	116	88	220	57
Brown Creeper	4	8	4	7	2
Winter Wren	4	8	6	10	4
Carolina Wren	93	351	108	316	66
Golden-crowned Kinglet	16	29	3	21	8
Ruby-crowned Kinglet	3	5		2	9
Eastern Bluebird	78	282	97	426	30
Hermit Thrush	2	3	2	8	7
American Robin	146	1479	12	184	96
Gray Catbird		2	1	1	1
Brown Thrasher				5	4
Northern Mockingbird	2	148	103	115	35
European Starling	31	7624	1633	2761	747
Cedar Waxwing	155	477	79	181	1
House Sparrow	3	588	142	475	183

Species	C&O Canal	Frederick County	Carroll County	Howard County	Baltimore County
American Pipit		101			
House Finch	14	308	134	393	84
American Goldfinch	23	152	138	223	44
Eastern Towhee	1	26	23	57	16
American Tree Sparrow		4			4
Chipping Sparrow		3		7	9
Field Sparrow	1	23	12	83	5
Savannah Sparrow		9		47	6
Fox Sparrow			8	8	8
Song Sparrow	31	360	166	653	78
Swamp Sparrow		25	6	22	6
White-throated Sparrow	193	1142	607	1823	259
White-crowned Sparrow		73		21	1
Dark-eyed Junco	93	808	370	892	197
sparrow sp.					21
Eastern Meadowlark		4		33	
Red-winged Blackbird		205	62	4502	238
Brown-headed Cowbird		12	1500	289	22
Rusty Blackbird		35		39	
Common Grackle		1		83	80
blackbird sp.	17			87	
Pine Warbler				1	1
Yellow-rumped Warbler	56	28	6	25	34
Northern Cardinal	64	731	238	611	172

I hope the readers find this information interesting and informative. Thank you to all the observers and compilers for their time and effort. - - Mary Anne.

Maryland Birdlife 67(2):79–83

2018 Spring Raptor Migration at Fort Smallwood Park, Anne Arundel County, Maryland

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Spring 2018 brought mixed results, with some impressive counts, but also with some that were very concerning. The season's total number of migrant raptors, 10,314, was above the ten-year (2008–2017) average of 10,130 (Table 1). Coverage of 468 hours and 83 days was in each case within a few percentage points of average. Turkey Vulture, Osprey, Cooper's Hawk, Bald Eagle, and Red-shouldered Hawk had season counts above their 5-year (2013–2017) averages. Ospreys, especially, were delightfully numerous; the count of 699 was the second highest ever. Sadly, Northern Harrier, Sharp-shinned Hawk, Broad-winged Hawk, Red-tailed Hawk, and American Kestrel continued their long-term and worrisome declines. To illustrate, the daily record high count for American Kestrel is 387, achieved in 2004. However, the entire count for this season was just 88. The Sharp-shinned Hawk low count of 598 is unprecedented. Only once since significant coverage began in 1993 has the seasonal count been less than 1000 and that was 845 in 2013. Percent changes in season counts are displayed in the Table 1. Although Cooper's Hawk had a positive 5-year percent change, the long-term trend is also in the downward direction. Merlin numbers have undergone more variability over the years, so that the negative percent changes shown are not significant. These trends have been verified, at least through 2016, using the Raptor Population Index (http://rpi-project.org/), a program which analyzes population data submitted to HawkCount (http://hawkcount.org/), a national database containing migratory raptor counts.

February: The first count day was 21 February, but adverse weather prevented a return until 26 February. By 27 February, only 5 migrants had been counted. On 28 February, however, favorable weather and winds spurred the migration with 243 raptors tallied, producing a monthly total far above the 10-year average of 91.

March's coverage was reduced by weather to 24 days, but good numbers of Turkey Vultures and Ospreys resulted in an above-average surplus of 500+ migrants.

Table 1. 2018 Common Raptor Species. The 2018 count and 5-year and 10-year percentage changes.

	Black Vulture	Turkey Vulture	Osprey	Northern Harrier	Sharp-shinned Hawk	Cooper's Hawk	Bald Eagle	Red-shouldered Hawk	Broad-winged Hawk	Red-tailed Hawk	American Kestrel	Merlin	Season Total
2018 Count	374	7,213	699	53	598	256	195	186	449	148	88	41	10,314
5-Yr % Change	-15	+15	+60	-21	-48	+6	+10	+1	-13	-31	-66	-18	+3
10-Yr % Change	-8	+24	+53	-4	-60	-24	+31	0	-30	-34	-67	-23	+2

April on the other hand, with 25 days of coverage, was 650+ raptors below average mainly due to a very poor count of Sharp-shinned Hawks. Only 409 were counted, compared to the 10-year April average of 1,163. But, one good bird can make a month memorable and that occurred on 27 April when a Swallow-tailed Kite passed by (Figure 1)!

May's numbers were above average by about 150 based on just 23 days of coverage. Turkey Vultures led the way, masking subpar performances by most other species, except for Mississippi Kite. May 15 was the first date that Mississippi Kites were observed in 2018, but it wasn't just one; it was 8, becoming the second highest daily record. Four others were seen in May, bringing the season total to 12, above the 10-year average of eight.

June's seven days of coverage produced decent counts of Turkey Vultures and Bald Eagles, but the big highlight was a second Swallow-tailed Kite on 2 June, the twelfth record for the hawk watch. Interesting was an abundance of westerly winds this season, and had there been normal numbers of Sharp-shinned Hawks, the overall count would have been much higher.

We are not only rewarded by watching migrant raptors parade by, but also by being able to witness thrilling raptor behavior. With more eagles in the air, we often got to see talon-grappling, spats with Ospreys, and synchronous group-flying.

Figure 1. Swallow-tailed Kite (*Elanoides forficatus*). Fort Smallwood Park, Anne Arundel County, Maryland; photographed by Tom Feild, 27 April 2018.

Figure 2. Purple Gallinule (*Porphyrio martinicus*). Species # 281 for Fort Smallwood Park, Anne Arundel County, Maryland; photographed by Dan Walker, 26 April 2018.

Figure 3. Saltmarsh Sparrow (*Ammospiza caudacuta*). Species # 282 for Fort Smallwood Park, Anne Arundel County, Maryland; photographed by Sam Miller, 26 April 2018.

Figure 4. White Ibis (*Eudocimus albus*). Flyovers near the stone battery heading toward Swan Creek.; species # 283 for Fort Smallwood Park, Anne Arundel County, Maryland; photographed by Bill Hubick, 28 July 2018.

Non-raptor species added to the enjoyment. A Common Raven flew by on 3 March and Seaside Sparrows visited in early May. A Great Blue Heron captured an Eastern Garter Snake, proceeded to ready it for a meal, and eventually swallowed it whole. It's possible that a Prothonotary Warbler nested in the wooded wetland as it was heard calling several times during the breeding season. Finally, and unexpectedly, three new species were added to the Park's bird list. On 26 April, a stunning Purple Gallinule (Figure 2), seen only a few times previously in Maryland, made the Park its home for almost two weeks. That same day, a Saltmarsh Sparrow (Figure 3) was spied skulking in the reeds nearby the hawk watch. On 28 July (outside of the hawk watch season), two White Ibis were observed flying north up the Bay (Figure 4). The total number of bird species observed at the Park has now reached 283.

Central to the success of this Spring's effort were our loyal counters, namely: Sue Ricciardi, Hal Wierenga, Lynn Davidson, Chris Reed, Dan Walker, Bob Rineer, Ralph Geuder, Paul Fritz, Bill Hubick, Andy Smith, Dan Haas, Jim Stasz, Dave Mozurkewich, Harry and Liz Armistead, John Hoffman, Hugh Hoffman, Linda Baker, Andy and Judy Higgs, Dan Stewart, Tom Field, and Alan and Sue Young. The contributions of other visitors were valuable as well. We are also indebted to the staff at Fort Smallwood Park for their continued support of the count.

Next Spring will bring its own joys and challenges. Are you ready?

[*Fort Smallwood Park is located in northeastern Anne Arundel County at 9500 Fort Smallwood Road, Pasadena, Maryland. It is situated at the tip of a peninsula where the Patapsco River and Rock Creek meet the Chesapeake Bay. The park is operated by the Anne Arundel County Department of Recreation and Parks. Additional Fort Smallwood Park information can be found at: https://www.aacounty.org/departments/recreation-parks/parks/fort-smallwood/*]

Maryland Birdlife 67(2):84

Peer Reviewers – 2017 and 2018

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The content of *Maryland Birdlife* depends upon the contributions of various investigators, authors, and avian enthusiasts who take the time to submit their entries for publication. It also depends upon the many reviewers who devote the time and provide helpful suggestions for improving each submission. The editors of *Maryland Birdlife* would like to thank all of the following individuals for their timely contributions in reviewing these submissions for the last two years.

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MARYLAND BIRDLIFE

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CONTENTS – FALL 2018

Editor's Note
Eugene J. Scarpulla 1
Maryland Pelagic Records from the Royal Navy Birdwatching Society
Phillip C. Davis 2
Atlantic Seabirds: Ocean City, Maryland Pelagic Trips, 1991–1992
Eugene J. Scarpulla 16
Pelagic Bird Species Chronologies and Distributions for Chesapeake Bay and Its Tributaries
Jan G. Reese and Jeffery D. Sullivan 34
Maryland Christmas Bird Counts (118th CBC) December 2017 through January 2018
John B. (J.B.) Churchill 52
2018 Maryland Midwinter Bird Count
Mary Anne Fluke 73
2018 Spring Raptor Migration at Fort Smallwood Park, Anne Arundel County, Maryland
Sue A. Ricciardi 79
Peer Reviewers – 2017 and 2018
Mark S. Johnson 84